504 150 miles upstream from Chungking. Two lesser tributaries empty into the Yangtze near Lu-chou and make the city a market for native products of southern Szechwan and northern Kweichow and Yunnan provinces. Further up-river from Lu-chou is I-pin, terminal of steamer shipping on the Yangtze. The proposed Szechwan-Yunnan Railway will pass through I-pin.

361 The Szechwan provincial capital is Chengtu, located on the westernmost of four major tributaries to the Yangtze River in the province. As an old cultural center of West China, this city is well known for its handicraft industries and is reputed to have an atmosphere like that of
499 Peking. The completion of the Chengtu-Chungking Railway -- an event overpublicized in the Communist press in 1952 -- brings Chengtu into closer contact with a number of important cities in central-south Szechwan, such as Nei-chiang, the only large center for the sugar industry in West China, and Lung-ch'ang. The proposed Szechwan-Yunnan Railway is to start from Nei-chiang, passing southwest through Tzu-kung
[317] Municipality. Salt extraction in the Tzu-kung area dates back to the tenth century. In 1953 there were 330 natural gas wells supplying 4,382 brine boilers in Tzu-kung. A railway linking Chengtu with Kansu Province in the north is under construction. This railway will pass Kuang-yüan, a strategic point on the northern
491 approach to Szechwan. The existing highway

491 between Chengtu and Kuang-yüan runs parallel to the new rail line at many places and cuts through a narrow defile just north of Kuang-yüan.

[361] West of Chengtu, the city of O-mei
491 stands on one of the two main overland routes
[823] linking Szechwan with the former province of Sikang. The mountain to the southwest of O-mei, after which the city is named, has been the favorite subject of classical Chinese literature because of its scenic beauty and its connection with Buddhism. Another main overland route from Chengtu westward is the much-heralded Sikang-Tibet Highway. Now that the province of Sikang has been abolished, it remains to be seen how the name of this highway is to be changed. An important highway trunk-line in West China, it passes through Ya-an, former capital of Sikang Province. Southward from Ya-an is a road running through the only rich valley area on the huge tableland of western Szechwan and Yunnan provinces.

Two highways connect Szechwan Province with Yunnan Province to the south. The eastern route from Chungking continues through Kweichow Province. The first key city on the highway in Kweichow Province is Tsun-i, which the red Army occupied twice during the Long March in 1934-35. The school playground on which the Red Army staged a huge rally in 1934 is now a national shrine and gives renown to the city

1:Stanford U. S-4, 5 1956 AF16 SW China AF16

491 of Tsun-i. Farther south, the highway leads to the provincial capital of Kuei-yang in the center of Kweichow Province. On the network of highways converging upon Kuei-yang are Tu-shan on the route to Kwangsi Province, Kuei-ting on the highway to Hunan Province, and An-shun on the road to Yunnan Province. In the mountain area of western Kweichow Province, An-shun, with an estimated population of 50,000, is the largest metropolis.

The western Szechwan-Yunnan route also passes through Kweichow Province. It starts from Lu-chou in Szechwan and enters Kweichow at a point a short distance north of Pi-chieh, then leaves Kweichow at a point south of Wei-ning. The possibility of expansion of Wei-ning is greater than that of Pi-chieh because in addition to the highway, the proposed Szechwan-Yunnan Railway will also pass through the former city. From Wei-ning south, the highway runs parallel to the proposed rail line to Chan-i, the northern terminal of the Yunnan-Indochina Railway.

496 The Yunnan-Indochina Railway links Chan-i with Yunnan's provincial capital of Kunming. During World War II, Kunming was used as the liaison center for U. S. and Chinese armies in South China and as the terminal of the famed Burma Road and the "Over the Hump" airlift. The beauty of nearby Kunming Lake and a healthful climate make this lake region

496 "the jewel of the south." Meng-tzu is the largest city in southern Yunnan. A spur line connecting Meng-tzu with Ko-chiu to the west facilitates the distribution of the latter's tin output by way of the Yunnan-Indochina Railway. For a period tin mining in the Ko-chiu area was interrupted by the destruction of the railway, but vigorous reconstruction after the Communists came has rejuvenated the industry, which, it is reported, supports 150,000 people. The last station on the Yunnan-Indochina Railway in China is Ho-k'ou, China's southern gateway. The only passable route across the border is by way of a bridge on the Nan-ch'i River.

• 491 Traffic between Yunnan Province and Burma has been shifted to the highway since the abandonment of the old Yunnan-Burma Railway. The highway starts from Kunming and passes through Ta-li and T'eng-ch'ung. The only international road suitable for mechanized vehicles crossing this section of China's boundary, the highway has become known as the Burma Road and is remembered for the important role it played when China was resisting the Japanese.

1:Stanford U. S-4, 5 1956 AF16 SW China AF16

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Table 2. The National Highways of Southwest China*
(Unit: Km = kilometers, Mi. = miles.)

Highway	Terminals	Route (principal Southwestern cities)	Length
Basic No. 1	Shanghai to Lhasa	Chungking, Neichiang, Chengtu, K'angtung	5,221 Km. (3,263 Mi.)
Basic No. 4	Wanting to Ch'engte	Tali, Kunming, Chani, Chungking	4,615 Km. (2,884 Mi.)
Longitudinal No. 4	Chanchiang to Pailingmiao	Kweiyang, T'ungtzu, Chungking	3,614 Km. (2,259 Mi.)
Longitudinal No. 5	Talo to Shanpa	Kunming, Hsich'ang, Yaan, Chengtu	3,621 Km. (2,263 Mi.)
Lateral No. 2	Shanghai to Tientshengch'iao	Yüp'ing, Lungli, Kweiyang, Anshun	2,782 Km. (1,738 Mi.)
		Total	19,853 Km. (12,407 Mi.)

* Kuo-tao Wang [The National Highway Network], Nanking, Hsing-cheng-yüan, Hsin-wen-chü, pp. 2-50.

[facing p. 864]

1:Stanford U. S-4, 5 1956 AF16 SW China AF16
AF16

497 Passenger rates were increased from 20 to 30 per cent. Higher rates were charged for exceedingly long or exceedingly short hauls of certain commodities in order to eliminate unnecessary use of transportation facilities.[43]

II. HIGHWAY ROUTES

491 The exact mileage of the highway network in the Southwest region is difficult to determine. The figures given in provincial reports do not agree with those given in the national report. No distinction is made between provincial roads and couty roads, nor is there any consistency in the various records concerning the completion of new roads or when such road are open or closed to traffic.

In this study, all the major national highways which pass through Southwest China are discussed as are principal provincial or interprovincial highways connecting the important cities and towns of the region. Major national, interprovincial, and provincial highways of the region are shown in Tables 2 and 3.

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43. Ibid., p. 14.

1:Stanford U. S-4, 5 1956 AF16 SW China AF16

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Table 3. Interprovincial and Provincial Highways in Southwest China*

(Unit: Km. = kilometer. Mi. = miles.)

HIGHWAY	TERMINALS	LENGTH
Sinkiang-Tibet Line	Yaan-Lhasa	2255 Km. (1409 Mi.)
Chengtu-Apa Line	Chength-Apa	507 Km. (317 Mi.)
Chinghai-Sikang Line	Hsiehwu-Taot'angho	673 Km. (421 Mi.)
Szechwan-Shansi Line	Chengtu-Paochi	770 Km. (481 Mi.)
Sikang-Yunnan Line	Fut'ien-Huili	433 Km. (271 Mi.)
Kunming-Talo Line	Kunming-Talo	-------
Yunnan-Kweichow Line	Kunming-Kweiyang	659 Km. (412 Mi.)
Szechwan-Yunnan (W.) Line	Chennan-Chinshaho	243 Km. (152 Mi.)
Szechwan-Yunnan (E.) Line	T'ienshengch'iao-Ch'ihshuiho	512 Km. (320 Mi.)
Szechwan-Kweichow Line	Sanch'iao-Ch'ungch'iho	306 Km. (191 Mi.)
Kweichow-Kwangsi (E.) Line	Kweiyang-Liuchai	300 Km. (187 Mi.)
Kweichow-Kwangsi (W.) Line	Hotsuling-Patu	266 Km. (166 Mi.)
Szechwan-Sikang Line	Chengtu-K'angting	333 Km. (208 Mi.)
Chengtu-Chungking Line	Chengtu-Chungking	413 Km. (258 Mi.)
Chungking-Wanyüan Line	Chungking-Wanyüan	417 Km. (261 Mi.)
Chiench'iang-Sanchiaop'ing Line	Chiench'iang-Sanchiaop'ing	785 Km. (491 Mi.)
Kunming-Hok'ou Line	Kunming-Hok'ou	297 Km. (186 Mi.)
	TOTAL.....	9761 Km. (5662 Mi.)

* Fei-ch'ü Ti Kung-lu Chiao-t'ung /The Highway Transportation of Communist Area/, Taipei, Sixth Section, Central Committee, Nationalist Party, 1953, pp. 22-25.

(Table 3 faces p. 865)

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AF16

491
499 Before the war of resistance against Japan, the highways in Southwest China (including country roads) amounted to 11,818 kilometers (7,386 miles) of which 6,812 kilometers (4,258 mi.) were paved with concrete or surfaced with tar.[44] During the war, the Nationalist Government built many new highways in the Southwest to meet military needs.[45] Since 1950, the Communists have built a number of new highways, including a network of roads in the minority areas. During the three-year period 1952-54, thirgy-four new highways (over 5,000 kilometers or 3,125 miles) were constructed.[46] Of these highways, the Sikang-Tibet Highway, the Chengtu-A-pa Highway, and the Kunming-Talo Highway are most important. The Sikang-Tibet Highway runs from Lhasa to Ya-an, a distance of 2,240 kilometers (1,400 mi.)[47] It climbs over mountains 16,000 feet above sea level. This was the first road to be built at such an altitude. In the past, traders with pack-trains

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44. Mao Shou-chin Kung-lu Ch'ang-shih [Common Knowledge about Highways], Shanghai, 1951, p. 3.

45. Ibid., p. 8.

46. Ching-chi Nien-pao [Economic Year Book], Hong Kong, Economic Bulletin Publishing Co., 1954, pp. 50-51.

47. China Reconstructs, Peking, The China Welfare Institute, May 1955, p. 2.

491 of yaks journeyed for months to bring their
499 goods to "the roof of the world," toiling over the ranges and deep valleys of the Tibetan plateau. But today trucks make the trip to Lhasa from Shanghai or Peking in as little time as 15 days.[48] When the Communists decided in 1950 to build this highway, teams were sent out to make a complete survey of the terrain. Soviet experts were consulted before the final choice of the route through Ch'ang-tu and T'ai-chao was made.[49]

Construction of the Sikang-Tibet Highway was extraordinarily difficult. The line was divided into 100-kilometers (60 mi.) sections, and workers were equipped with rock-drills and power-driven saws.[50] The snow-line on the Tibetan plateau was 15,000 feet above sea-level, and in certain area the earth was frozen so hard that workers had to use dynamite to blast it.[51]

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48. Ibid.
49. Far Eastern Economic Review, Hong Kong, June 23, 1955, p. 786.
50. Ibid.
51. China Reconstructs, May 1955, p. 3.

1:Stanford U. S-4, 5 1956 AF16 SW China
AF16

491/499 The bridging of the Nu River was another difficult project in the building of the highway. Both banks of the river rose to a height of 3,000 feet. The river's current ran at a rate of 20 feet per second.[52] Another section of the highway cut across an immense tract of virgin forest, and it took the workers a long time to fell all the huge trees.[53] The Lhasa River Bridge, the last bridge of the highway, was completed in the latter part of December 1954 and the highway was open to motor traffic.[54]

491 The Chengtu-A-pa highway is another principal highway built by the Communists through one of the national minorities areas in Southwest China. Its construction was begun in March 1951 and was completed in November 1955.[55] It runs from Chengtu, the capital of Szechwan Province to A-pa, the commercial center of the Tibetan Autonomous District in Szechwan, a distance of 509 kilometers (318 mi.)[56] During a three-year period prior to November 1955, grains and building and industrial materials shipped to

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52. Ibid.
53. Ibid.
54. Ibid., p. 4.
55. People's Handbook, Tientsin, Ta-kung Pao, 1955, p. 532; Economic Bulletin, Hong Kong, March 21, 1955, p. 12.
56. Ibid.

1:Stanford U. S-4, 5 1956 AF16 SW China
AF16

491 this district amounted to 25,000 tons, while the native products shipped out of it amounted to 13,000 tons.[57] In Kweichow Province four short highways leading to the national minority district of the province were completed in 1954.[58] The Kweichow-Kiangsi Highway from Kweiyang to Chin-ch'eng-chiang was also opened to traffic in the same year.[59] Road improvement work on the Kweichow-Yunnan Highway was begun in 1955.[60]

Because of the limited number of railways in operation in Southwest China, highway transportation plays a very important role in this region, in spite of the comparatively high cost of motor fuel and a shortage of motor vehicles.

III. INLAND WATER ROUTES

505 Inland water shipping is a major
487 means of transportation in Southwest China. The two most important navigable rivers are Yangtze and the Chia-ling rivers. There are

57. China Daily News, New York, Nov. 23, 1955.
58. Ibid., Aug. 16, 1955.
59. Ibid.
60. Ibid.

499 464 issued one directive concerning the conscription of peasants to build and repair the highways in 1951,[14] which authorized all levels of local governments (administrative district, hsien, chu, and hsiang) to recruit and organize civilian labor for highway construction. It is stipulated in the directive that one recruit is limited to 10 standard work-days each year. One standard work-day is the average amount of work accomplished per day per person in that locality. The recruits receive no daily allowance for their food and are required to bring their own tools. In Southwest China, during five years of Communist control, about 5,000 kilometers (about 3,105 miles) of highways had been constructed with recruited laborers.[15] The most important one -- the Sikang-Tibet Highway -- was completed by the end of 1954.

A. Difficulties of the Job

•491 The Sikang-Tibet Highway, 2,240 kilometers (about 1,400 miles) long, today links Lhasa with the rest of China. It is the first highway built in China at such a high altitude and in the face of so many difficulties. It climbs the

14. Compendium of Laws and Regulations Concerning Financial and Economic Policies of the Central Government, Peking, March 1952, Vol. III, pp. 713-15.

15. People's Daily, Jan. 13, 1955.

1iStanford U. S-4, 5 1956 AF16 SW China AF16

491 snow-clad mountains that tower 16,000 feet above sea level, with bridges across the tremendous ravines where mountain torrents plunge through twisting gorges. The area along the route is rocky, precipitous, and subject to earthquakes, landslides, avalanches, and shifting sands.

499 Although the Communists had no topographical
464 maps of this region, no geological, seismological, or weather records, and no engineers with experience in highway construction over such a terrain as the Plateau of Tibet, they mobilized a tremendous amount of manpower.

B. Labor Force and Working Conditions of the Laborers

By the end of 1951, the local governments of K'ang-ting, Ya-an, Ch'ang-tu and T'ien-chüan had recruited about 8,000 civilian laborers. They began to work with the man-power of the People's Liberation Army. In that winter they worked on the terrain 16,000 feet above sea level under severe weather, 25 degrees below zero (C). By March 1952, out of the original 8,000 builders, 3,500 had died as the result of hardships and the climate.[16] At the same time, a fresh

16. Cheng Chu-yüan, op. cit., p. 98.

2: Rock K-5 (1934-) 1947 AF16 Southwest China AF16

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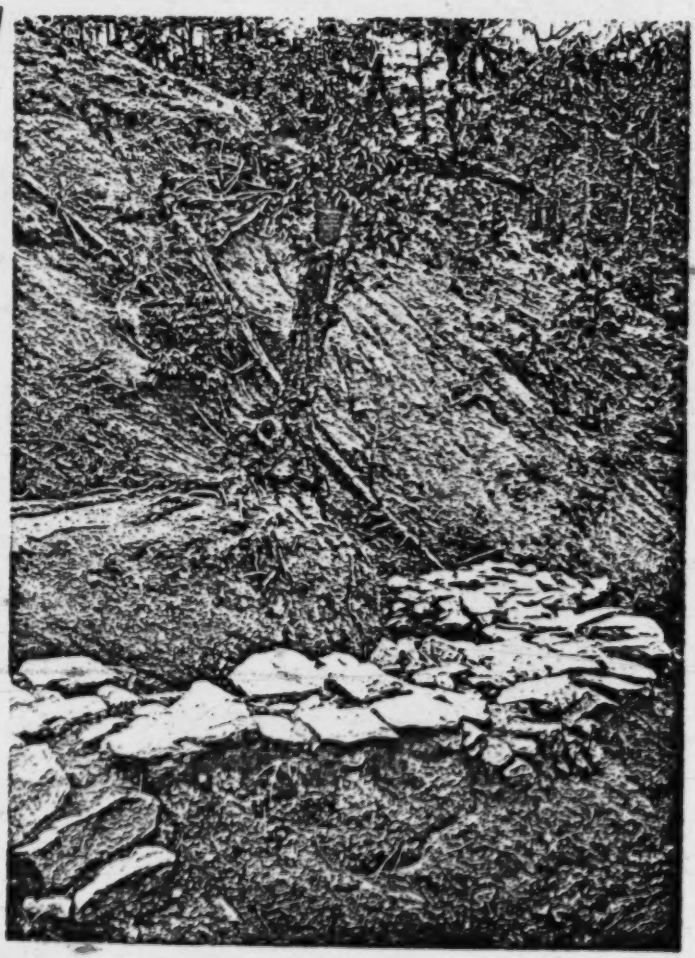

PLATE 3. — A TYPICAL YÜN-NAN HIGHWAY

雲南驛路全景

This road is as old as the hills and leads from Li-chiang 麗江 to La-chi-ming 喇鷄鳴, a salt-well station east of the Mekong.

[p. 28 C]

2: Rock K-5 (1934-) 1947 AF16 Southwest China AF16

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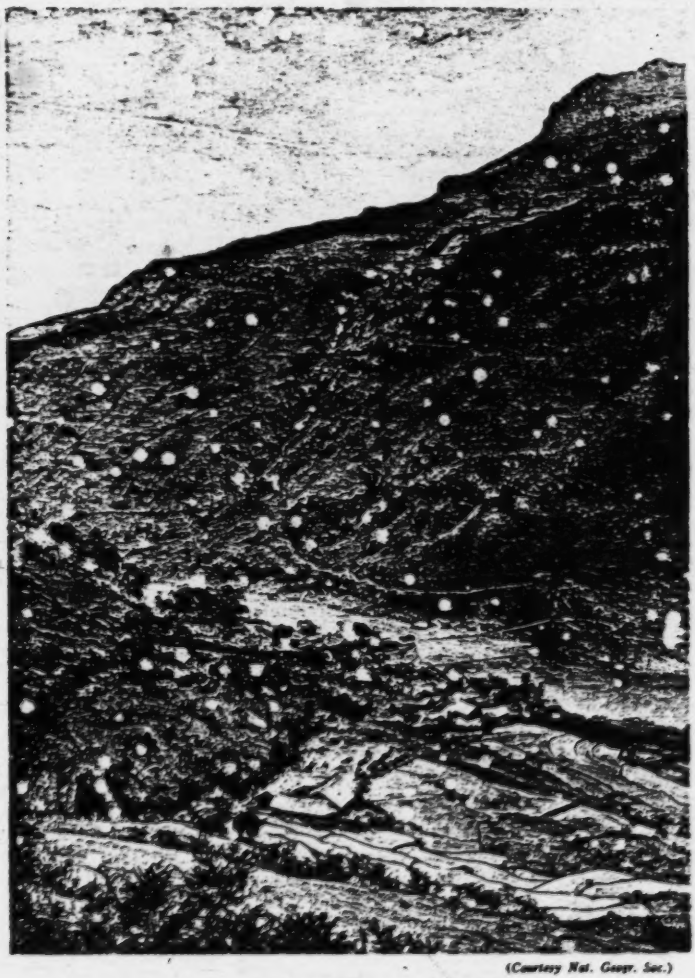

(Courtesy Nat. Geogr. Soc.)

PLATE 110. — THE ONLY BRIDGE ACROSS THE YANGTZE

神 黑 江 鎮 橋

The Chin-lung ch'iao (Golden dragon bridge) spans the Yangtze at Tzu-li-chiang. The village above the bridge is called Chin-lung-ch'iao-ts'un or Gku-k'u-ndu in Na-khi. The mountains on the other side of the river are in Yung-sheng (Yung-pei) territory.

[p. 188 F]

2: Rock K-5 (1934-) 1947 AF16 Southwest China AF/16

(Courtesy Nat. Geogr. Soc.)

PLATE 111. — THE CHIN-LUNG CH'IAO CHAIN SUSPENSION BRIDGE

金龍橋或拜里繞＊橋

The bridge called Dsi-li shu-êr ndso in Na-khi, rests on 18 iron chains anchored to boulders buried in the ground. It sways considerably when traversed by pedestrian or mule. The Yangtze flows here at 4,600 feet.

[p. 188 G]

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2: Rock K-5 (1934-) 1947 AF16 Southwest China AF16
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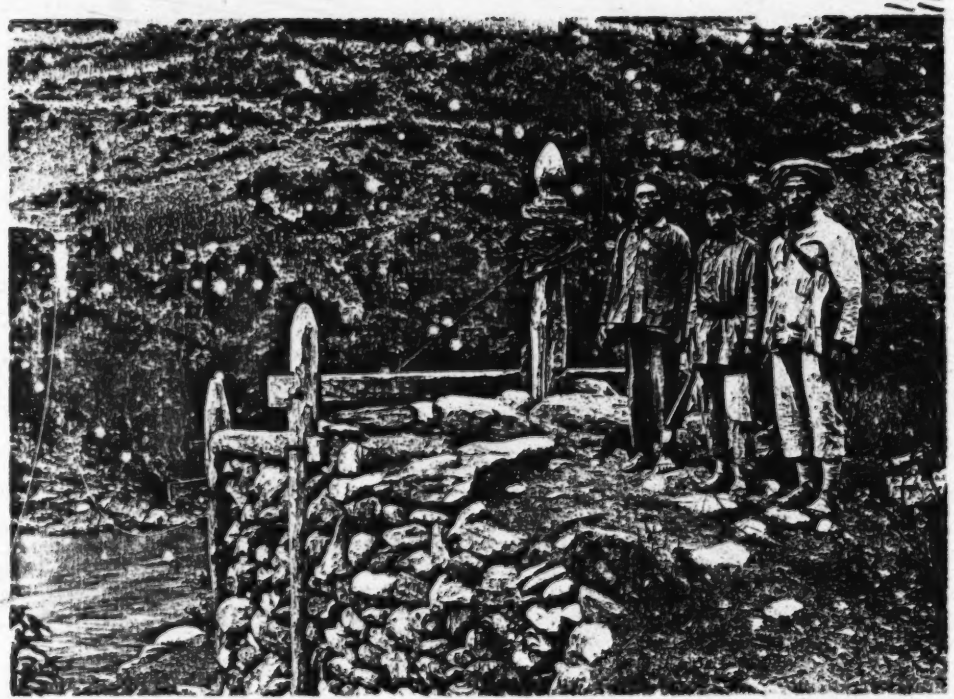
[p.298 J]



(*Courtesy Nat. Geog. Soc.*)

PLATE 162.—THE ROPE BRIDGES ACROSS THE MEKONG AT LO-NDU

瀾滄江索橋

There are two rope bridges at Lo-ndu, for crossing from the east to the west bank and vice versa. The rope is made of twisted bamboo (Arundinaria), and the post around which it is wound, of cypress wood. The ropes are changed about every three months, depending on the traffic.

2; Rock K-5 (1934-) 1947 AF16 Southwest China AF16

●491

PLATE 46. — THE ROPE BRIDGE ACROSS THE MEKONG AT TʻU-KU

木 姑 渡 口

Horses are equally frightened when crossing a rope bridge; they usually kick, open their mouth and lift up their tail. Arrived on the other side they lie down exhausted.

[p. 298L]

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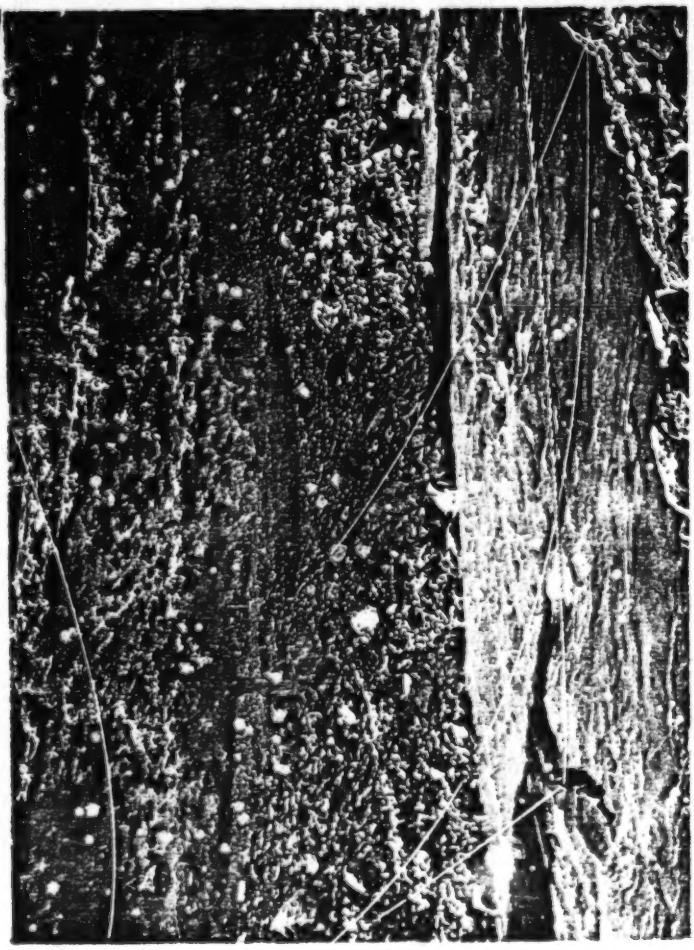

(Courtesy Nat. Geog. Soc.)

PLATE 166.—THE ROPE BRIDGES AT YANG-PIA

In the autumn hundreds of pilgrims cross here daily *en route* to the sacred Do-kar La.

[p. 298 N]

2: Rock K-5 (1934-) 1947 AF16 Southwest China AF16

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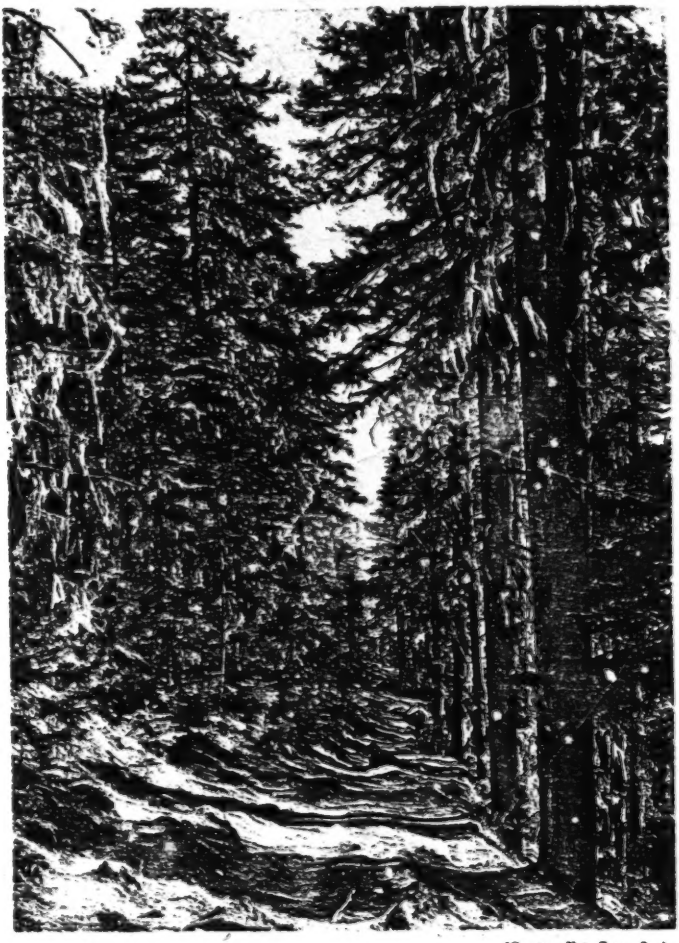


(*Courtesy Nat. Geogr. Soc.*)

PLATE 206. — THE ROAD TO TUNG-CHU-LIN THROUGH MAGNIFICENT SPRUCE FOREST

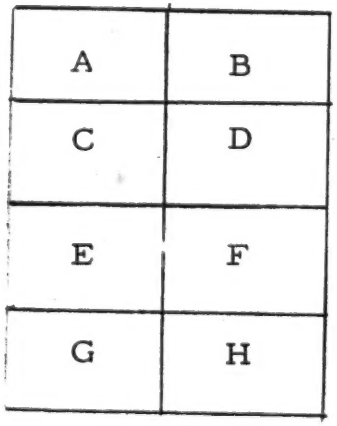
東竹林路途尾雲杉林

Picea complanata with *Rhododendron Wardii* as undergrowth forms pure stands at 12,000 feet, north of Tung-chu-lin Lamasery. *Usnea longissima* festoons the trees.

[p.394-F]

2: Rock
487, 491, 133, 101, 361

[Chart of Pagination on End Maps I, II, III, IV.]



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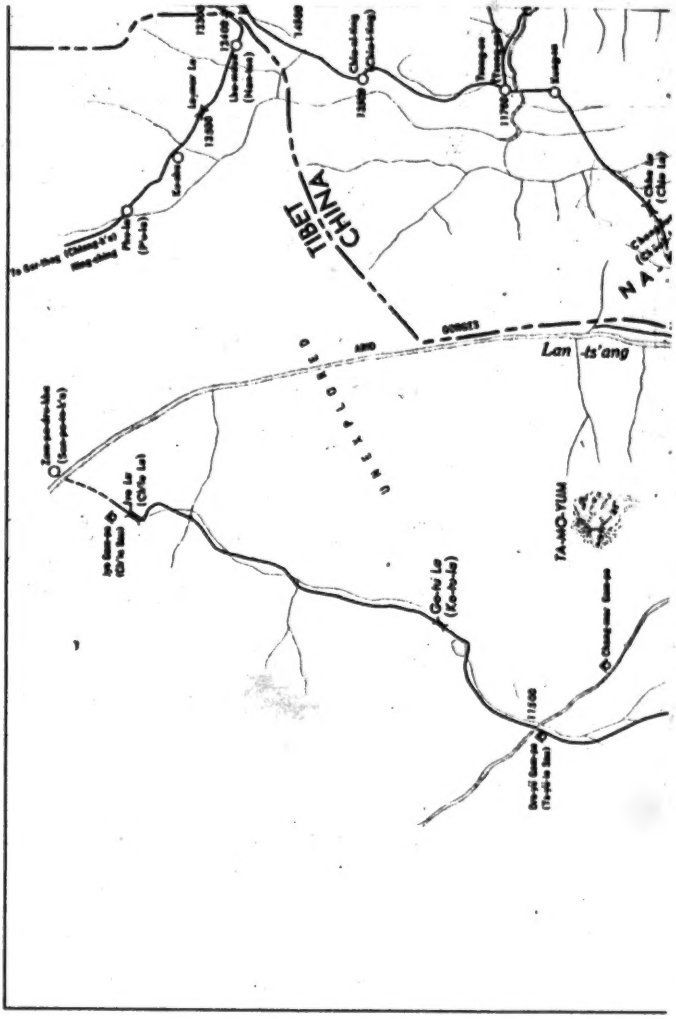
TE-CH'I



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[End map I A]

2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

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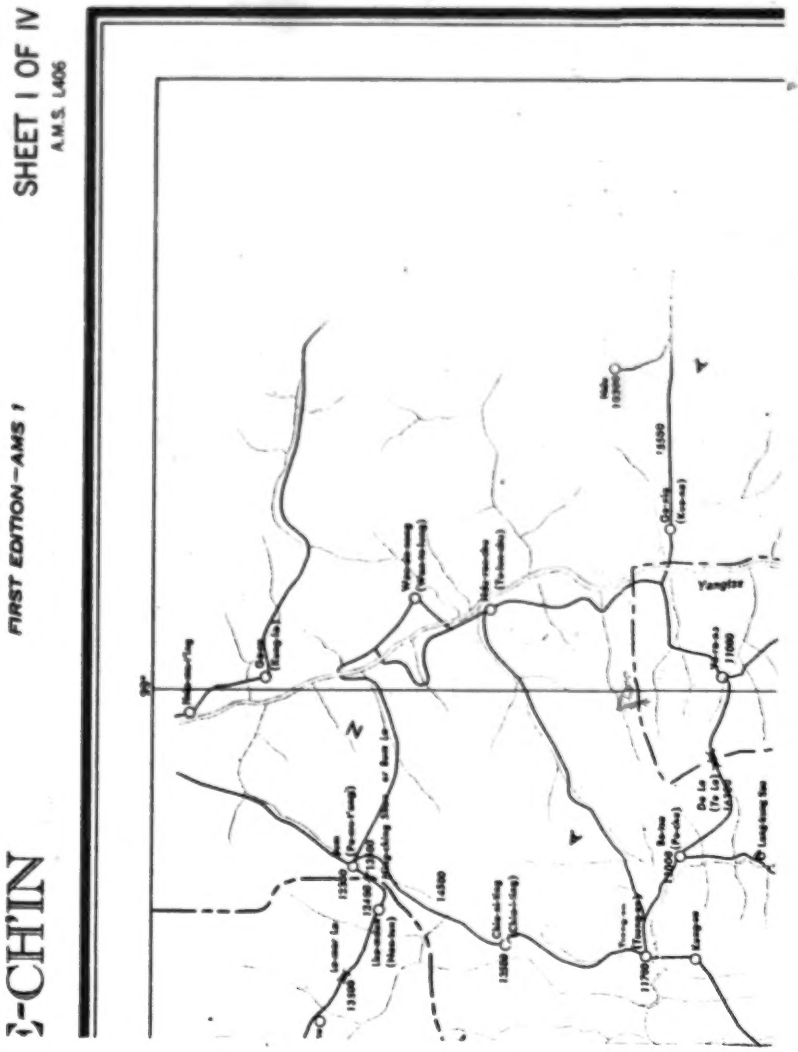

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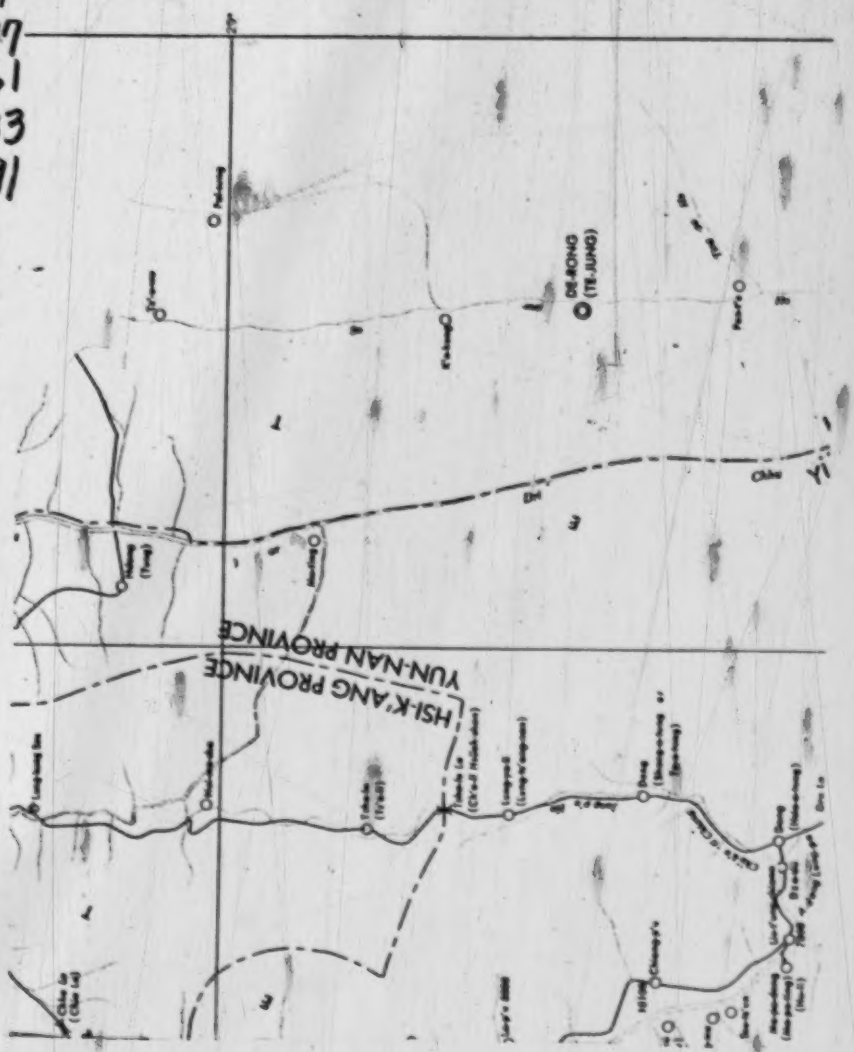

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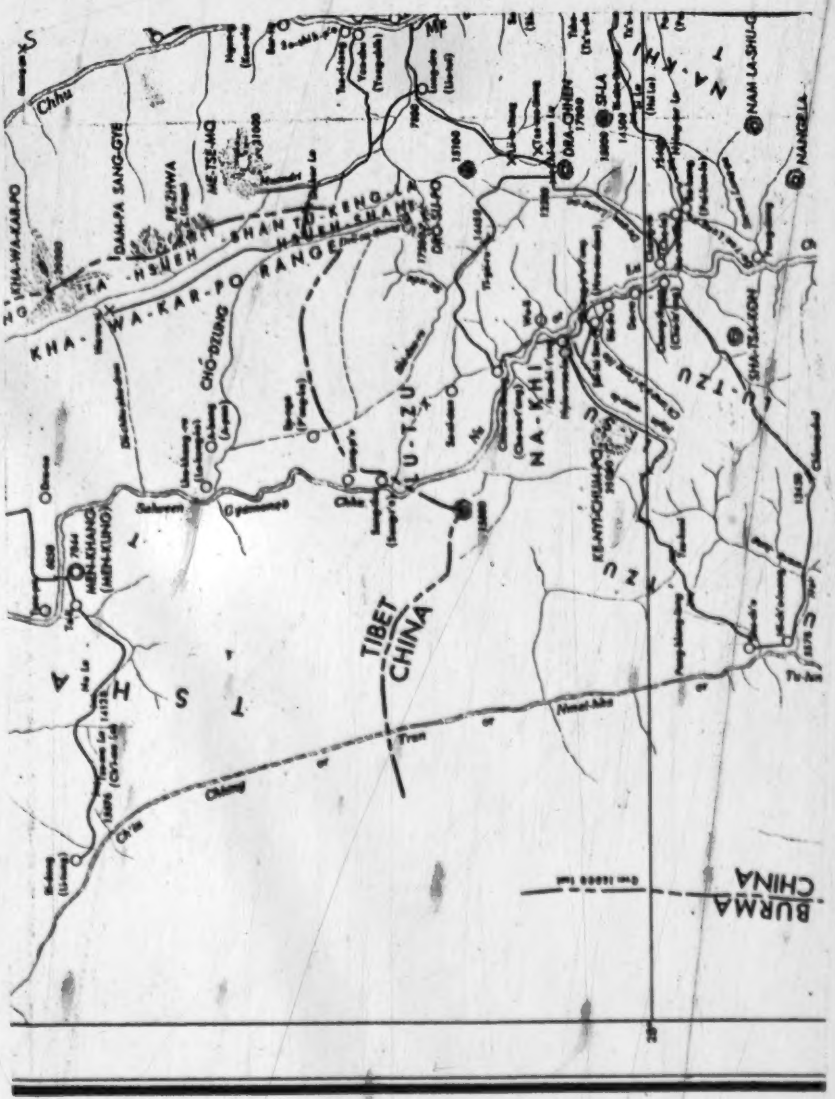

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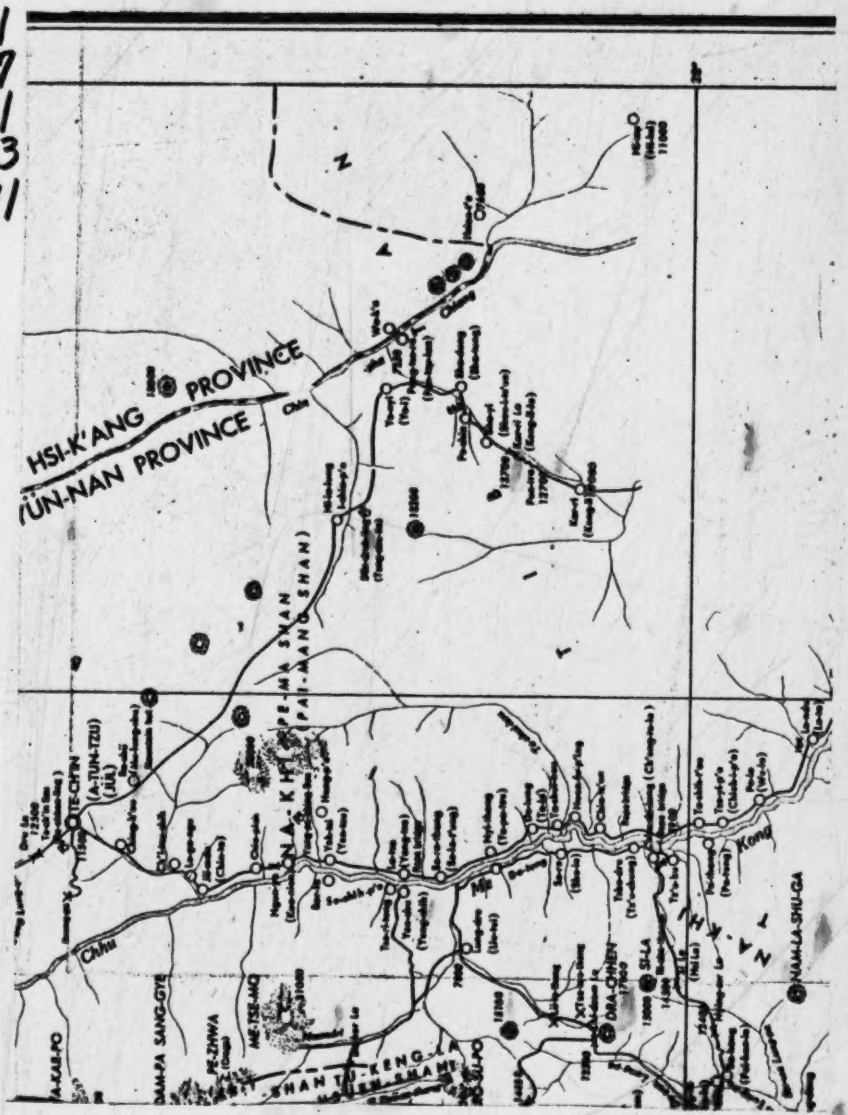

[End map I F]

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A.M.S. L406
First Edition (A.M.S. 1), 1946

Prepared under the direction of the Chief of Engineers by the Army Map Service (AMPT), U. S. Army, Washington, D. C. Redrafted from original maps compiled in 1945 by J. F. Rock, from original surveys 1922, 1923 and from surveys by Major H. R. Davies 1895, Captain F. M. Bailey 1911, Dr. H. Handel-Mazzetti 1914-16, Eric Teichman 1922.

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PROJECTION LINES ARE APPRC

APPROXIMATE HEIGHTS IN

LEGEND

BOUNDARIES
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Province
Territorial or tribal
Road or trail
Unsurveyed trail
District town
Village
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Camp site
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Mountain hut
Shrine, Mission, Temple
Airfield
Pass
Cave

Peak with spot height in feet — 15300
Peak with glacier
Gorge
Ferry
Chain bridge
Chain bridge (destroyed)
Rope bridge
Small wooden bridge
Unexplored stream
Disappearing stream
Hot spring
Lake
Island in river
Sedar terrace

Rope
Wooden
Hot

2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

[End-map I G]

2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

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ARMY MAP SERVICE, U. S. ARMY, WASHINGTON, D.C., 144382
1947

CTION LINES ARE APPROXIMATE

INDEX TO SHEETS

PROXIMATE HEIGHTS IN FEET

TE-CH'IN (A-TUN-TZU), CHINA

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[End map]

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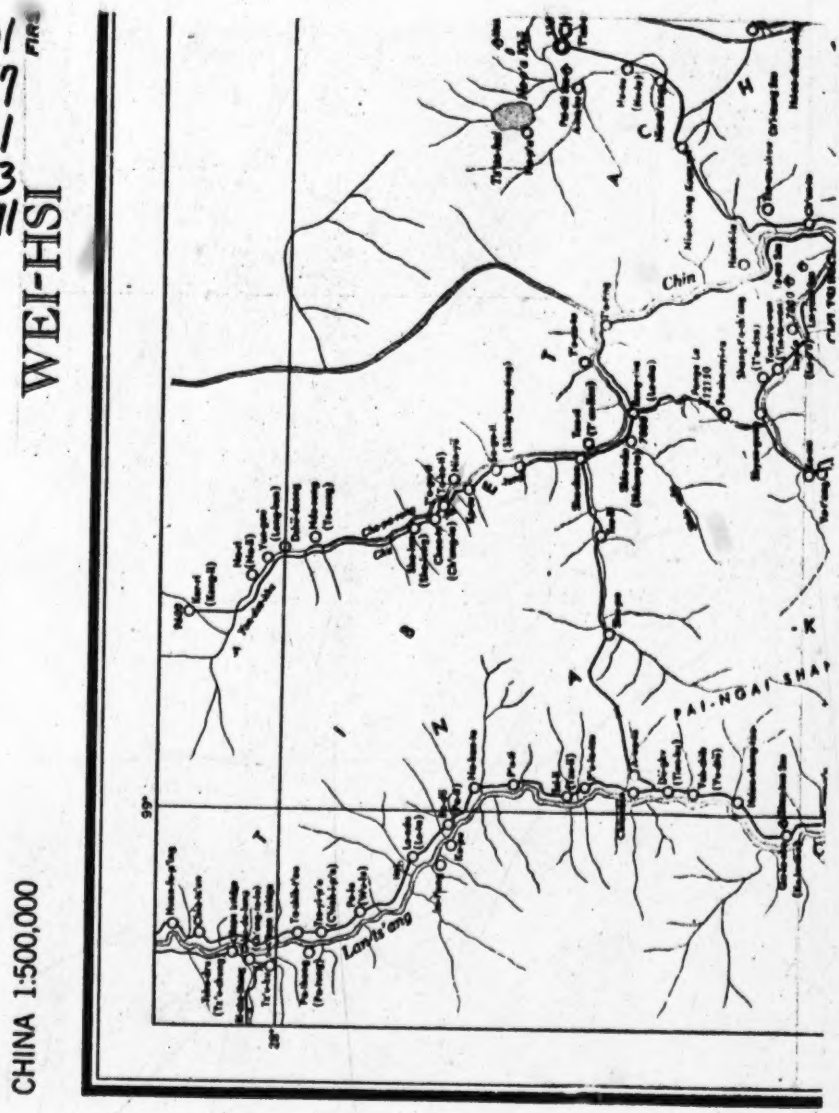

[End map II A]

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SHEET II OF IV
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FIRST EDITION—AMS 1

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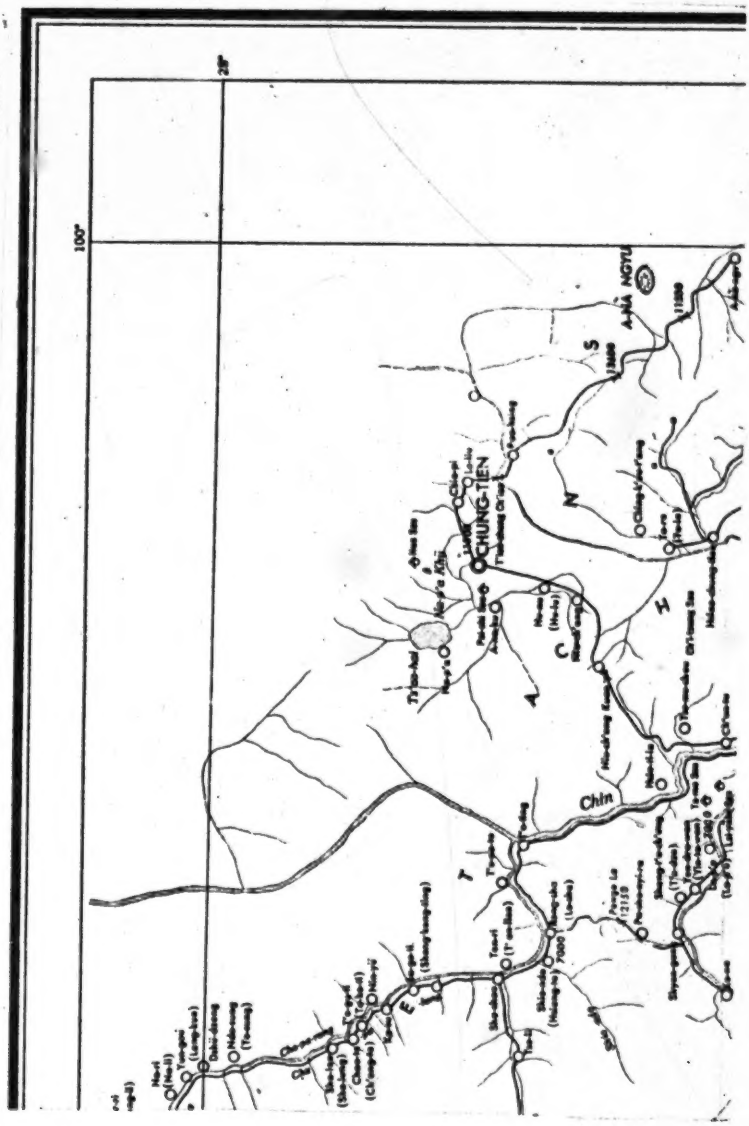

[End map II B]

2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

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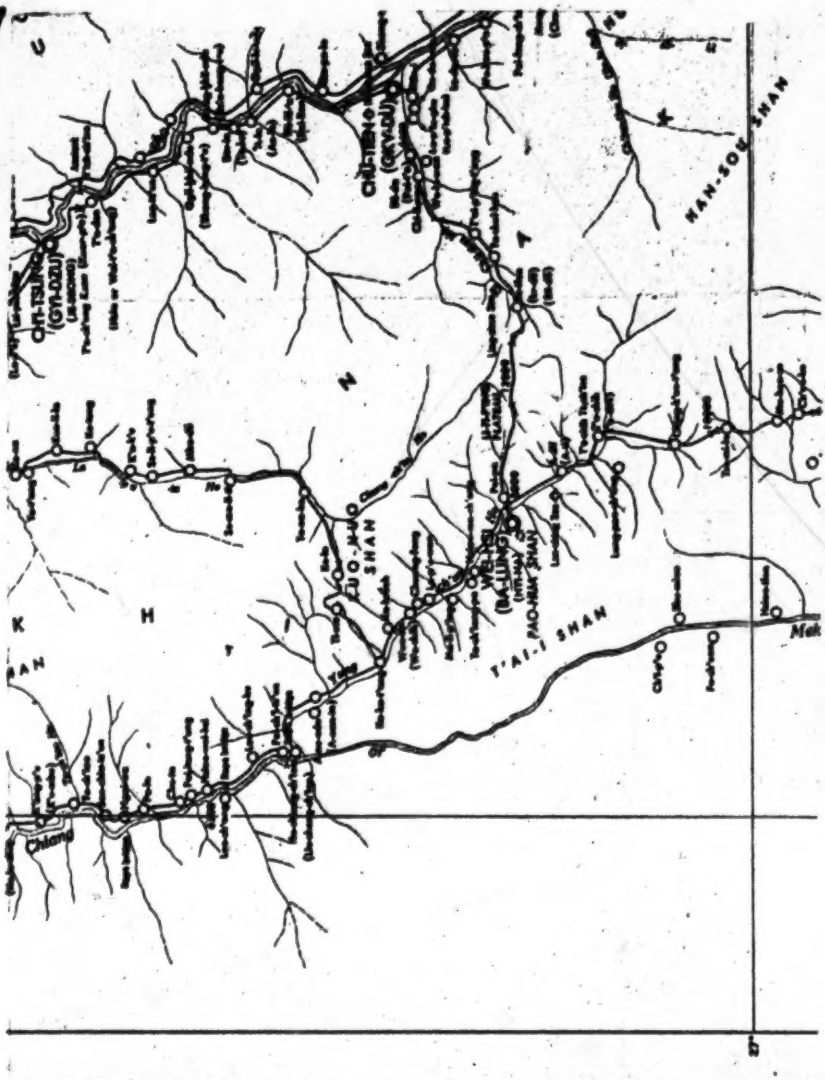

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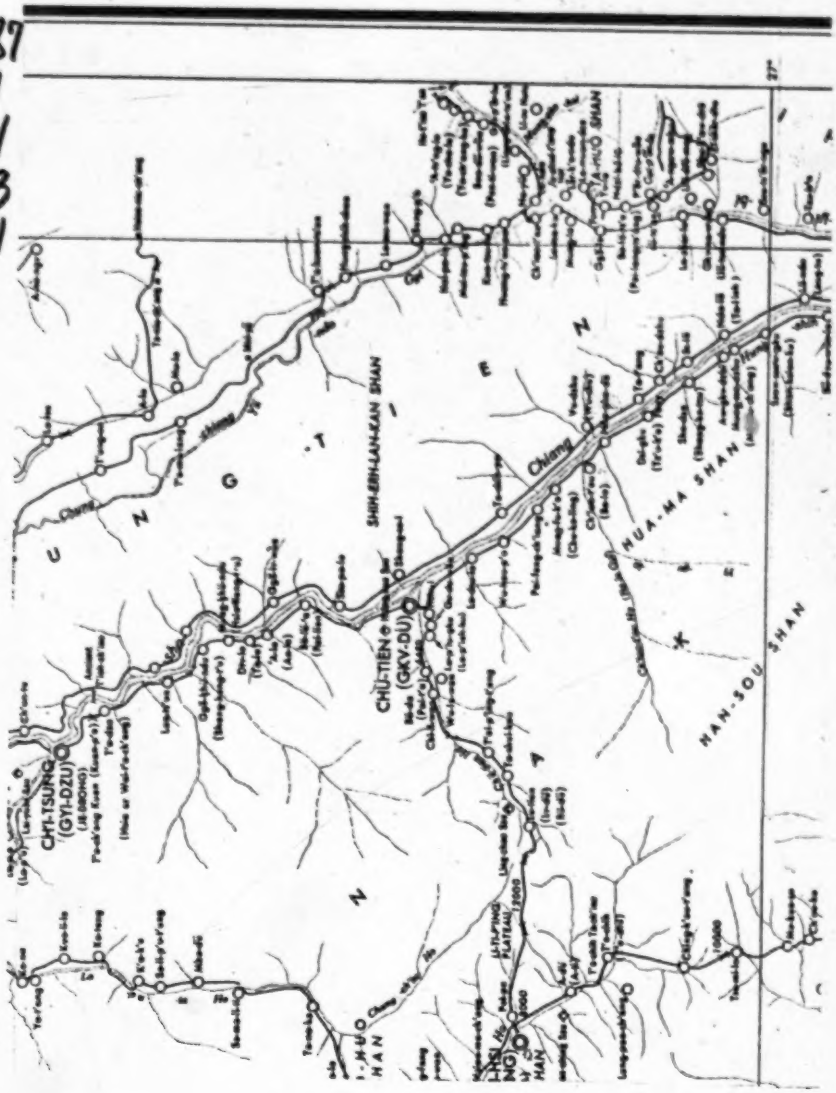

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2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

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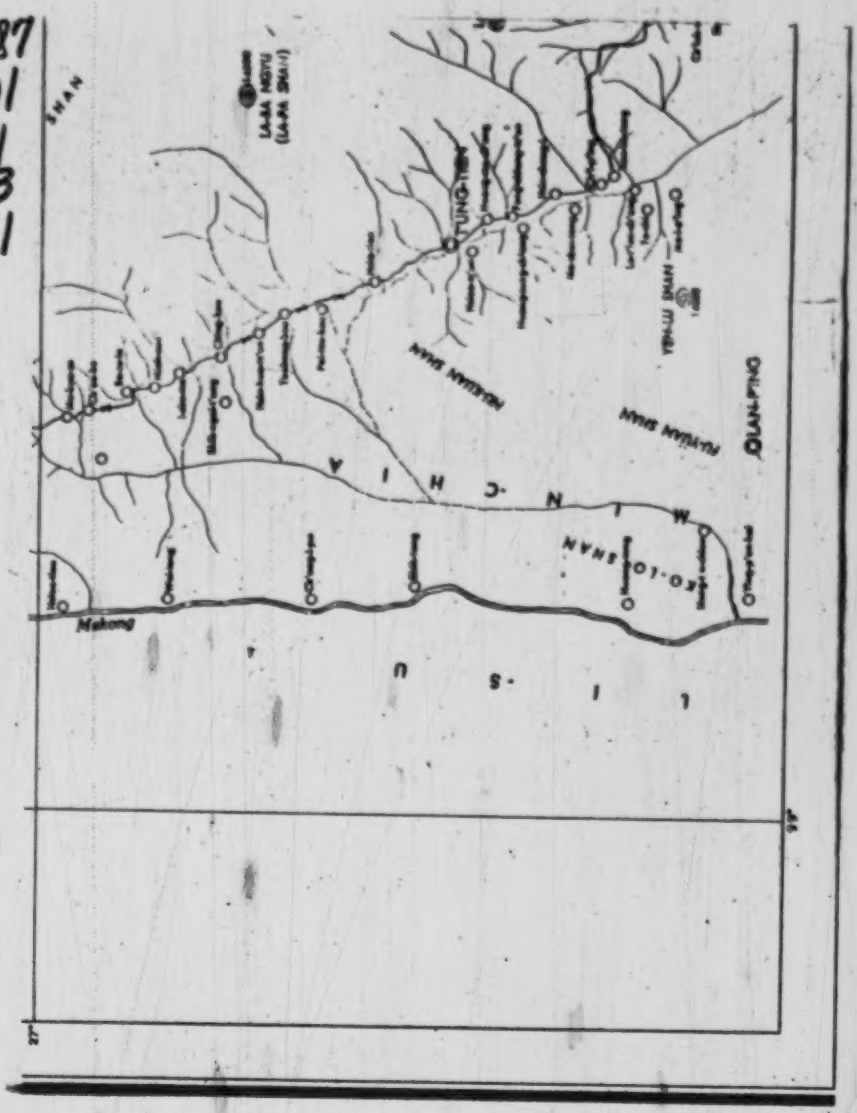

[End map II E]

2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

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[End map II F]

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Scale 1:500,000 (Approximate)

3 0 3 6 9 12 15 Miles

10 0 10 20 30 40 50 Ki

LEGEND

BOUNDARIES

International

Provincial

Territorial or tribal

Road or trail

Unimproved trail

District town

Village

Lolo settlement

Camp site

Lamasery

Mountain trail

Shrine, Mission, Temple

Airfield

Pass

Cave

Peak with spot height in feet

Peak with glacier

Gorge

Ferry

Chain bridge

Chain bridge (unmarked)

Rope bridge

Steel wooden bridge

Unexplored streams

Discovering stream

Hot spring

Lake

Island in river

Stone terrace

PROJECTION LINES ARE APPROXIMATE

APPROXIMATE HEIGHTS IN FEET

[End map II G]

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Rock K-5 (1934-)1947 AF16 Southwest China AF16

Scale 1:500,000 (Approximate)

3 0 3 6 9 12 15 Miles
10 0 10 20 30 40 50 Li

PROJECTION LINES ARE APPROXIMATE

APPROXIMATE HEIGHTS IN FEET

ARMY MAP SERVICE, U.S. ARMY, WASHINGTON, D.C. 144363
IB-46 1948

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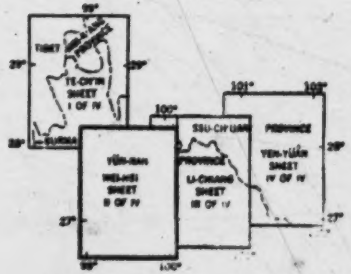

WEI-HSI, CHINA
N2625-E9850/145x120

[End map II H]

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2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

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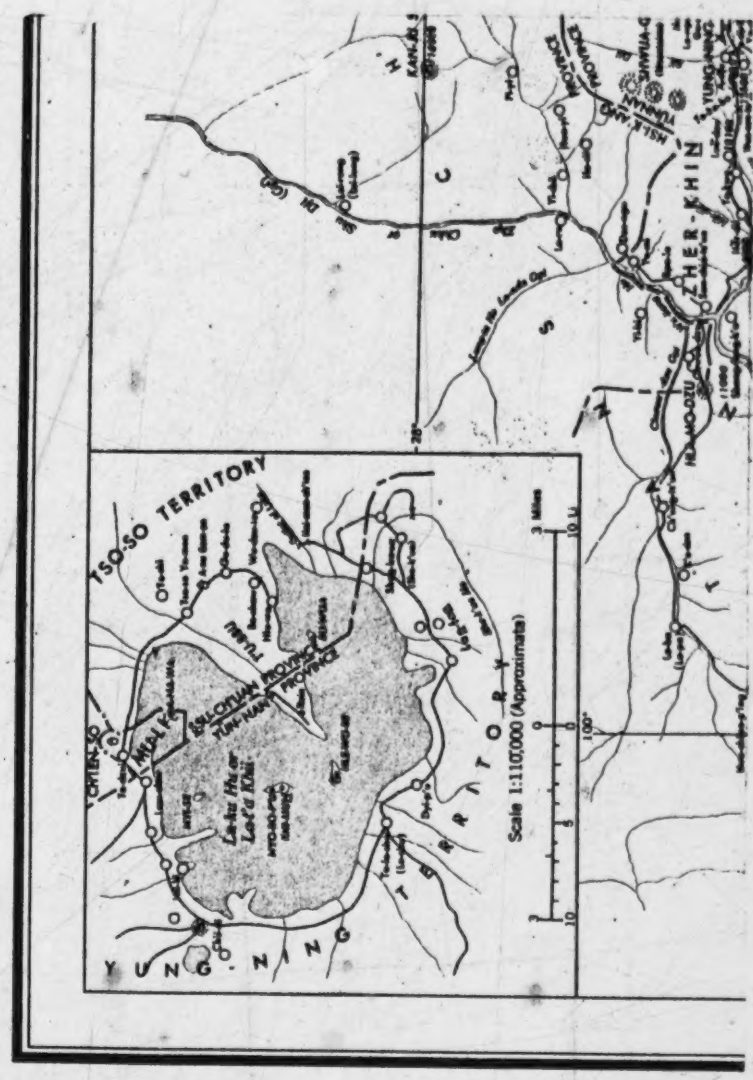

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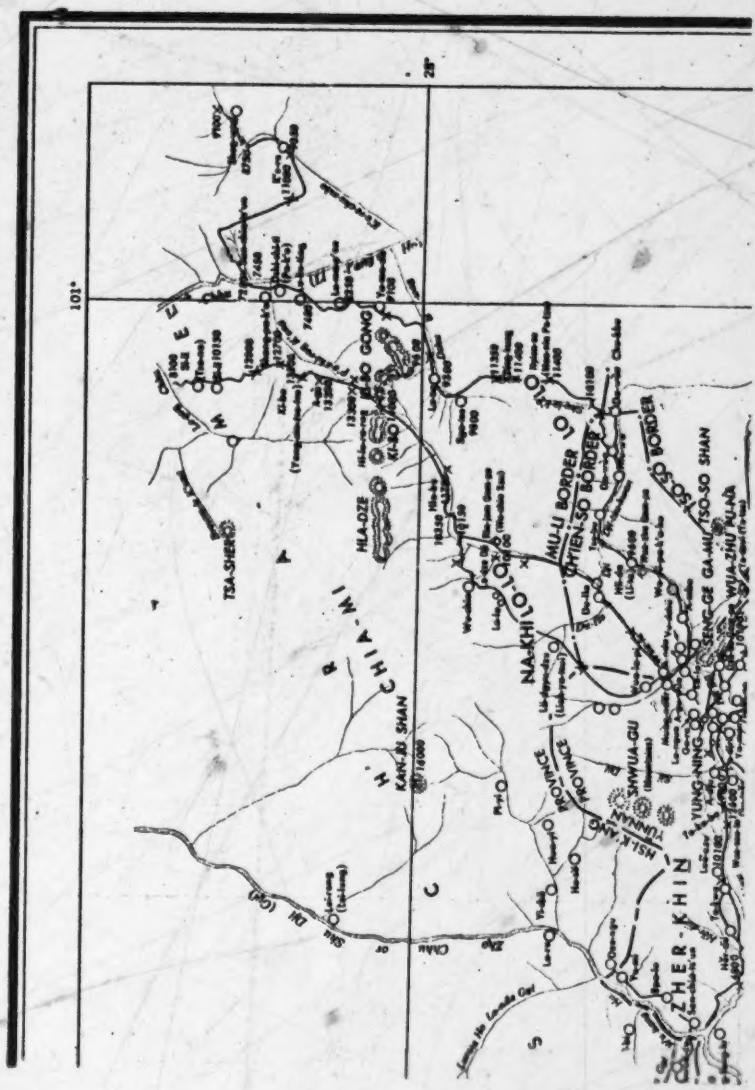

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2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

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[End map III C]

2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

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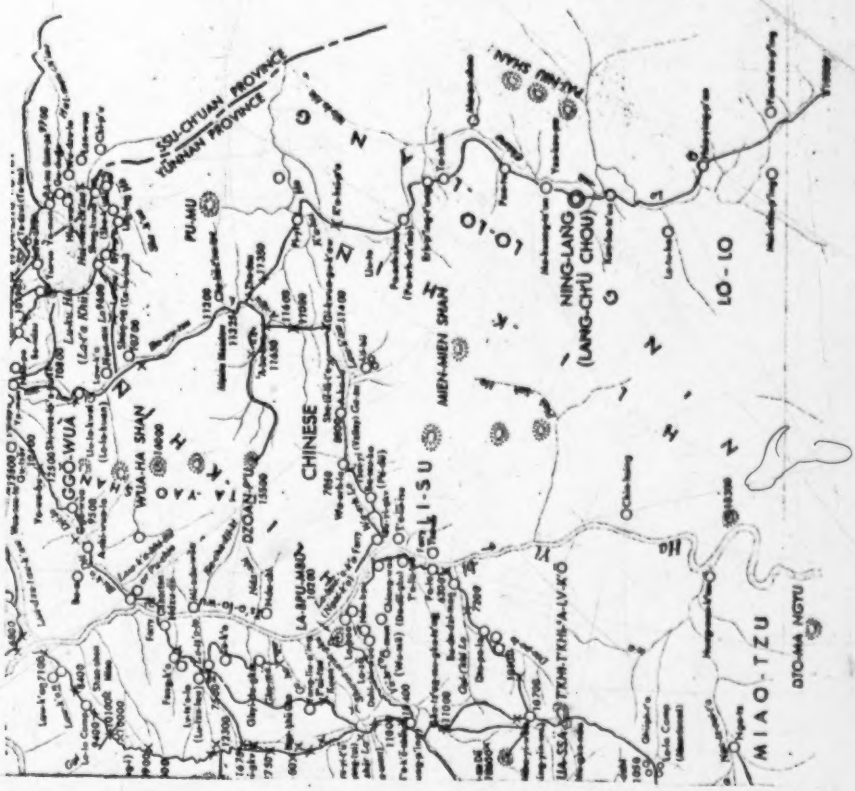

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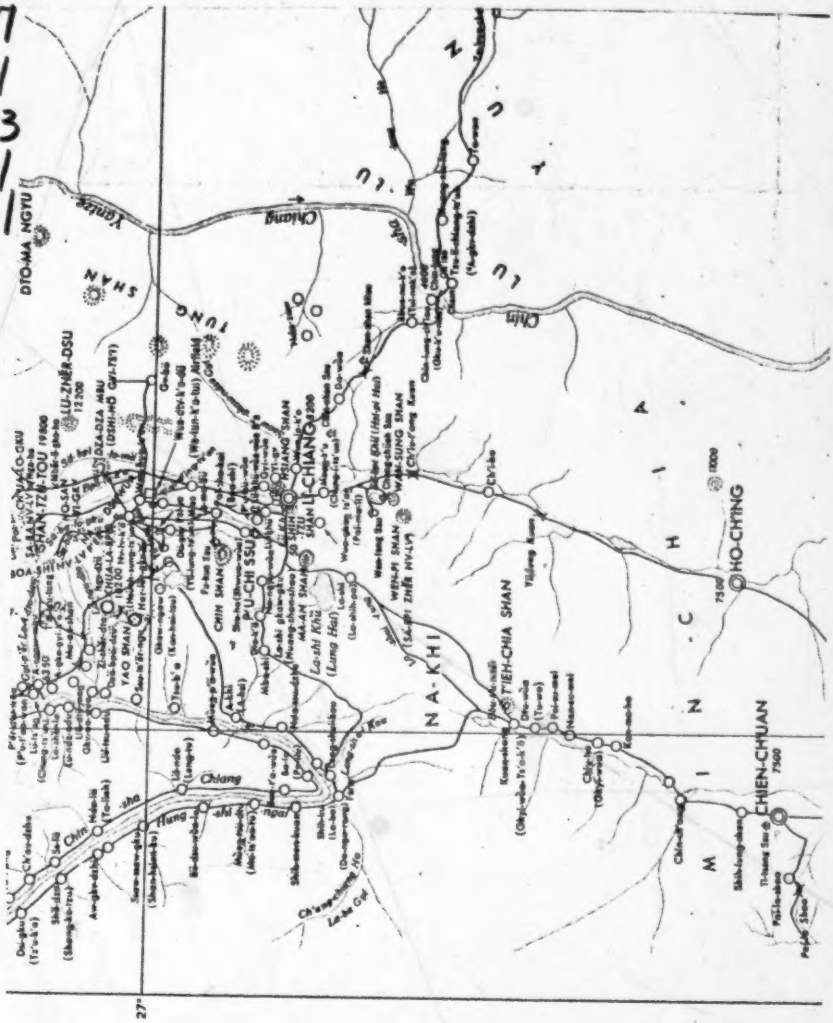

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[End map III F]

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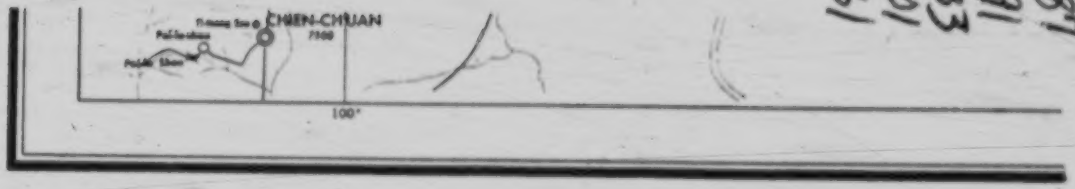

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Scale 1:500,000 (Approximate)

PROJECTION LINES ARE APPROXIMATE

LEGEND

BOUNDARIES
International
Provinco
Territorial or tribal
Road or trail
Unsurveyed trail
District town
Village
Lolo settlement
Camp site
Lamasery
Mountain hut
Shrine, Mission, Temple
Airfield
Pass
Cave

Peak with spot height in feet
Peak with glacier
Gorge
Ferry
Chain bridge
Chain bridge (destroyed)
Rope bridge
Small wooden bridge
Unexplored stream
Disappearing stream
Hot spring
Lake
Island in river
Sluice terrace

APPROXIMATE HEIGHTS IN FEET

2: Rock K-5 (1934-1947 AF16 Southwest China AF16

[End Map III G]

Scale 1:500,000 (Approximate)

PROJECTION LINES ARE APPROXIMATE

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APPROXIMATE HEIGHTS IN FEET

LI-CHIANG, CHINA

N2630-E9950/145x110

E: Rock K-5 (1934-)1947 AF16 Southwest China AF16

[End map III H]

2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

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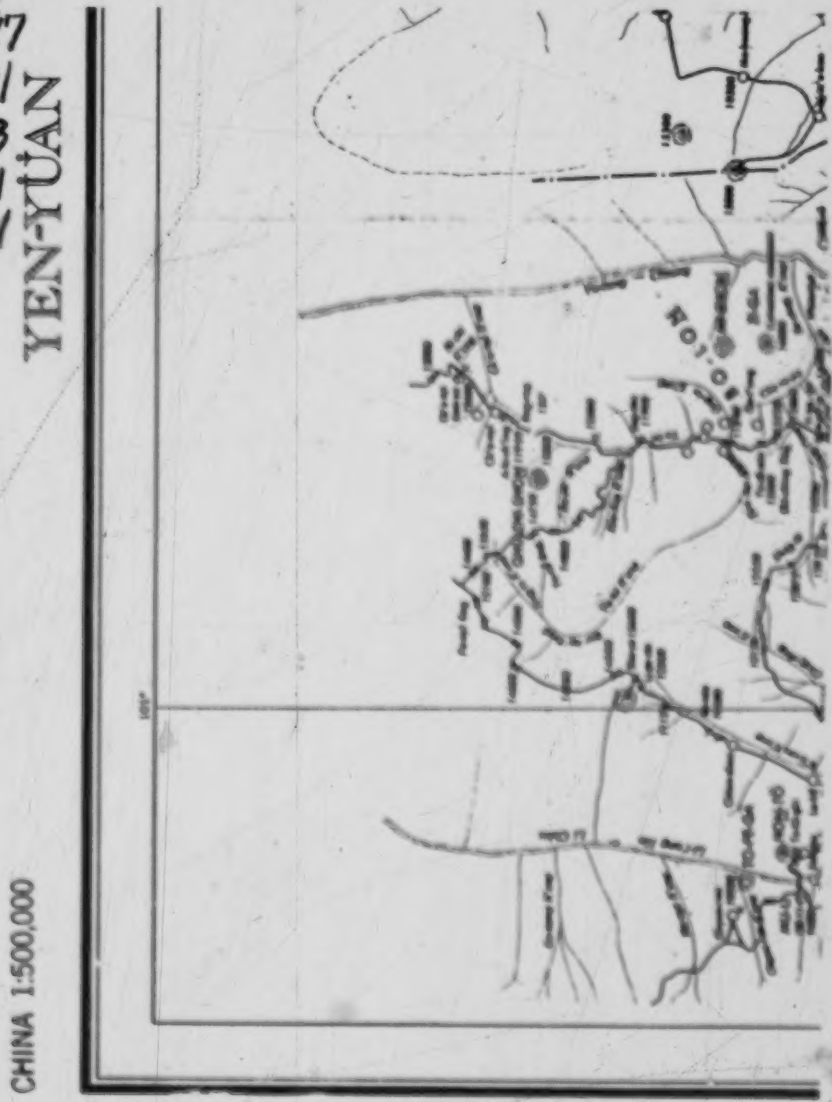

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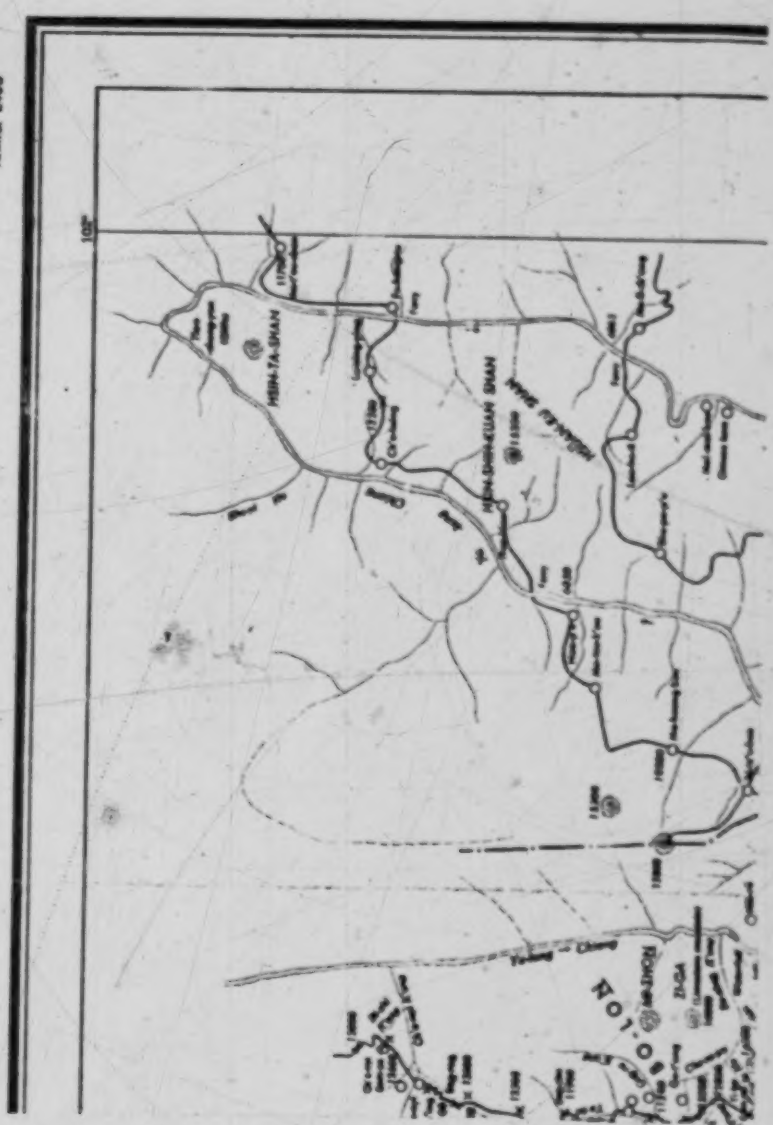

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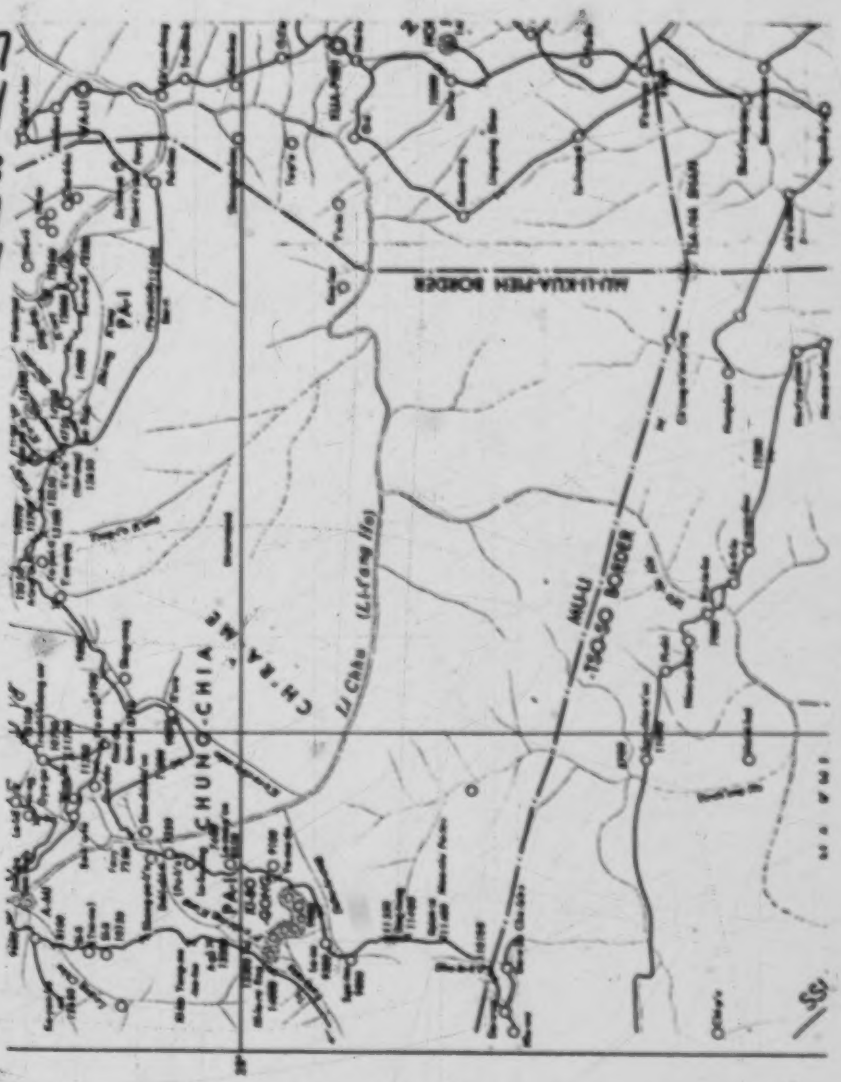

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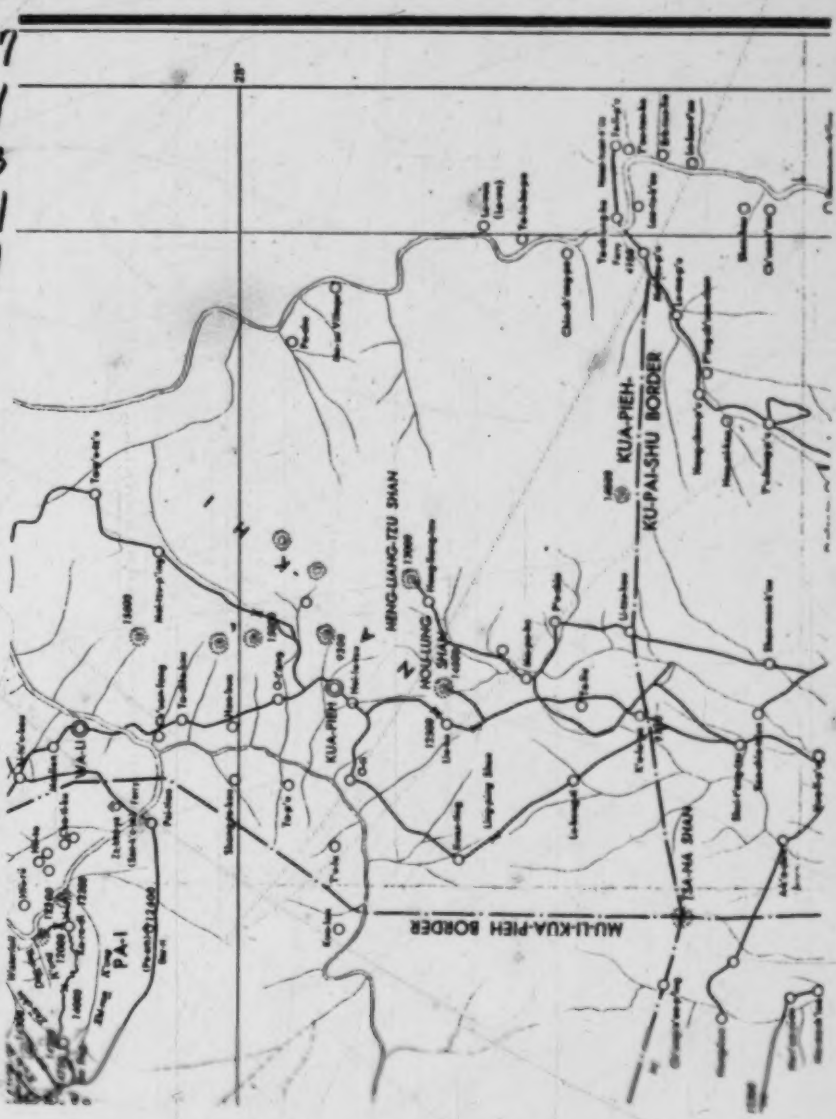

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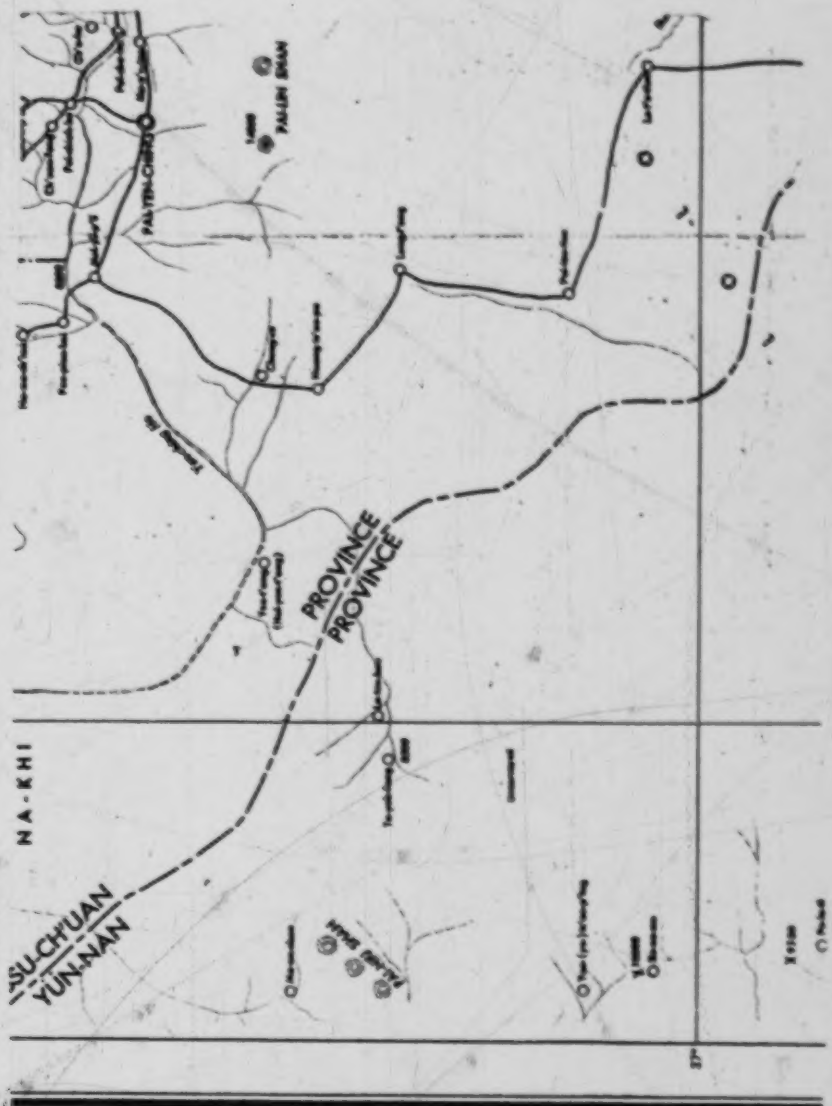

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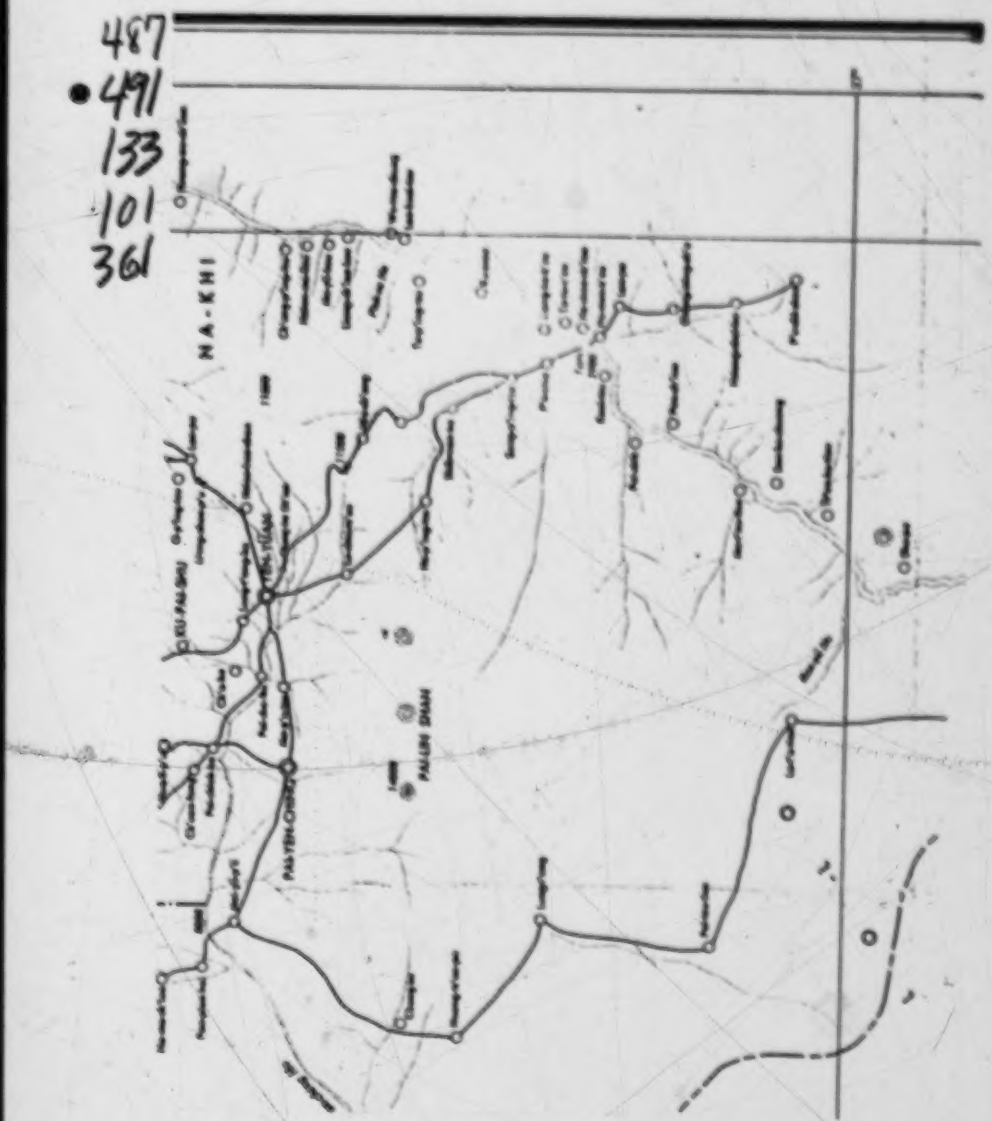

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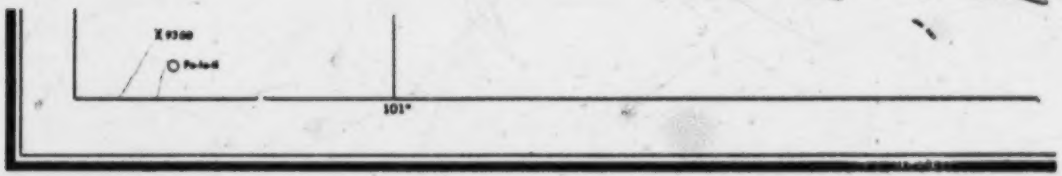

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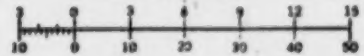

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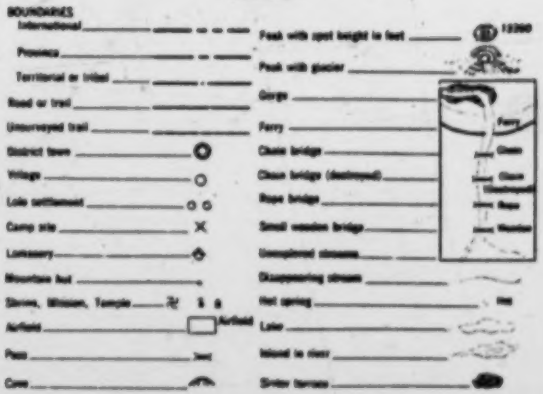

PROJECTION LINES ARE APPROXIMATE

APPROXIMATE HEIGHTS IN FEET

[End map pg]

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Rock K-5 (1934-)1947 AF16 Southwest China AF16

Scale 1:500,000 (Approximate)

PROJECTION LINES ARE APPROXIMATE

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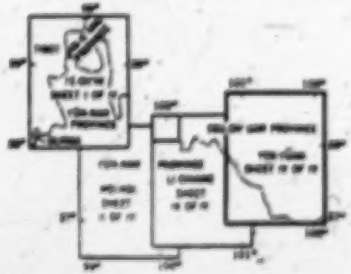

APPROXIMATE HEIGHTS IN FEET

YEN-YUAN, CHINA

N2655-E10045/145x150

2: Rock K-5 (1934-)1947 AF16 Southwest China AF16

[End map IX-H]

769 Ancestor worship is institutionalized to an amazing extent. Not only the very large and wealthy families and clans but also the ordinary well-to-do ones have a separate ancestral temple. All go to great lengths and expenses to ensure good sites for family graveyards according to geomancy. In order to make sure that the fortune of the family will be on the up all the time it is the custom to change graveyards to new sites when the old ones have become suspect. Old imperial honors granted from Peking have been and are still highly valued. Walking through the town and its villages one comes upon numerous plaques of honor on the portals to many family homes.

249 Not many years ago, before the advent of the power of the Central Government into the province, opium growing was general. George B. Cressey prints in his book, China's Geographical Foundations (1934) a photograph showing "Fields of Opium Poppy Outside the Walls of Yunnan-fu" (Kunming). This sight is no longer common today, especially in the more communicable parts. In the remoter interior of the province, the author has been told, opium is still being grown. Opium smoking is certainly very widespread everywhere in the province. Opium-growing in this town and its satellite villages was formerly the source of income for many families, and the trading of the commodity has enabled many families to become wealthy, indeed. The prohibition of its plantation has caused many small farmers to sigh about the passed "golden age," but has not prevented the wealthy families from making even more profit out of the now scarcer supply. These facts have at least been partly responsible for the wealth of West Town.

556 West Town contains a disproportionately large number of wealthy families. These families are not mere local stars. They are rather outstanding even in the larger provincial cities and in Kunming. One year ago the top of these families performed a funeral that lasted over two months and cost about one million national dollars. Even the lesser ones are also considerable. Soon after the fabulous funeral the wedding of the young master of a small one-room cloth store in the town cost ten thousand national dollars while the wages of laborers in the town were still about two or three dollars a day with board.

556 178 743 871 This wealth has perhaps given rise to the over-emphasis on the ancient ways as regards imperial honors, ancestor worship and sexual differences. But in recent years a few wealthy families have also supported in the town three schools, a hospital and a public library. The hospital has about twenty beds, one graduate nurse, two medical officers (both M.D.'s, one was trained in Peiping Union Medical College), a number of assistant nurses and a nursing training class. It has arrangement for free medicine and hospitalization for the poor. The schools are: one middle school, one primary school divided into two parts, and one normal school. The three schools combined have a total enrollment of about 1,400. The first and second schools are co-educational. The principal of the middle school is a local man who has studied in Ts'ing Hua University, Peiping.

Influences from Outside

491 492 205 Before the days of the Burma Road, motor transportation was scarcely known to this region and communication with Kunming took about two or three weeks one way. After the opening of the Burma Road the town was soon connected with the Road by a sort of badly constructed highway. But the principal mode of travelling is still pack horses and "chairs" (Hsiao Kuo). Since about two years ago there has been a third-class post office receiving mail from Kunming once in two days.

5: Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

elevation above the river. Here[1] I was very comfortably put up in a *hsing-t'ai*, which is the name for the rest-houses specially reserved for Chinese officials travelling.

We were now travelling with an official escort, consisting of two policemen sent by the magistrate, and two soldiers sent by the General. It is the invariable custom in western China for Europeans to be supplied with an escort of this sort. Some travellers appear to look on them as a nuisance, but I have not found them so. Their presence is specially useful in parts of the country previously untrodden by Europeans, as it lets the inhabitants know that one is travelling with the sanction of the Chinese Government. Without this the people in some places are quite ignorant enough to suppose the traveller to be the leader of a gang of robbers, or perhaps a fugitive from justice. On one occasion between San-si and T'êng-yüeh, my interpreter was asked quite seriously by an old countryman whether we had come to invade China.

Also I have found the escort very useful in getting rooms at an inn, and in various other small services which they are usually glad to perform, with the anticipation of course of a small reward at the end. The arms they carry are not of the sort to give one much respect for the Chinese army. Generally it is an old muzzle-loader, sometimes only a sword or a three-pronged spear. An opium-pipe is a necessity for most of them, and it is a common saying among the Chinese that this is the only weapon their soldiers know how to handle, the word *ch'iang* being used in Chinese for both a gun and an opium-pipe.

This day's march was my first experience of a Chinese paved road. The stones are of all shapes and sizes, with large spaces in between them, and the road seems specially designed to render both walking and riding equally unpleasant. The sharp stones hurt one's feet, and one slips down on the flat ones. To make things worse there were one or two showers of rain, which made the stones so slippery that the mules could hardly keep their footing. Wherever it is possible to avoid the paved road, tracks have been made alongside of it, by which one can get along at a fair pace.

1 These roads exist all over China, and I suppose the

[Village of Kan-lan-chai, Shweli Valley -- Analyst]

& Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

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Photo by Captain W. A. Watts-Jones

Iron-chain bridge over the Shweli

Plate XI

[Face p.52]

& Davies G-8 (1894-1900) 1909 AF16 Southwest China AF16

• 491 total length of them must run to some hundreds of thousands of miles. When new they may be fairly good, but they are seldom repaired, and the Chinese proverb well describes them as "Good for ten years, and bad for ten thousand." It is always a great relief to get into some out-of-the-way part of the country where there is only what the Chinese contemptuously describe as an "earth road." These paved roads have their uses however in the rainy season, as the stones prevent the path becoming an impassable morass.

On the 18th January we crossed the Shweli by one of the famous iron-chain suspension bridges. There are a considerable number of these bridges in western China, especially in western and southern Yün-nan. The chains, which are usually ten or twelve in number, are solidly embedded in massive piers of brick or stone on each side of the river, and the roadway is made by planks laid across these. Loaded animals can cross them, and though they sway about a good deal, they will stand a lot of weight.

133 The river is some 40 yards wide, with a strong current running over a rocky bed. It does not come from any great distance, and in a subsequent journey I was able to fix the position of its source approximately. There is no actual flat plain in this part of its course, but to the west the slope is very gradual to the foot of the steep part of the hills three miles off, and there are numerous Chinese villages both up and down the valley. The river is called by many names. To the Burmese it is known as the Shweli, to the Chinese as the Lung-ch'uan Chiang, or more commonly as simply the Lung Chiang or Dragon River. The Shans call it the Nam Yang in the upper part of its course, but change its name to Nam Mow when it enters the Möng Mow plain.

From the river there is a stiff ascent, at first through the usual dried up grass and fern, and higher up through bamboo and tree jungle. We camped at the little Panthay village of T'ai-p'ing-p'u at 7,400 feet, and had a very hard frost at night.

563 Panthay is the name which we have adopted from the Burmese for the Mahommedans of Yün-nan. The Chinese name for Mahommedans is *hui-tzŭ* or *hui-hui*. The name

S. Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16
Pai-i AE7

Lu Chiang, the Shans the Nam Hkong, and our name for it is a corruption of the Burmese name Than-lwen. It is crossed by another of the iron chain bridges, in this case of two spans, the only two-span bridge of this sort in the province as far as I know. The construction of the pier in the middle is assisted by the fact that the westerly span, which is 50 yards long only, crosses what is in the dry season chiefly shingle with a shallow stream running over it. The eastern span, 80 yards in length, crosses the main part of the river. The bridge has naturally been built at the narrowest place possible, so that 80 yards must not be taken as a fair estimate of the breadth of the Salween in this part of its course. Above and below the bridge its width varies from 100 to 160 yards. It has a fairly strong current and must be very deep in the middle.

At the time the bridge was under repair, and we had to cross by ferry two miles lower down. They were removing the stones of the pier to look at each chain and see whether it wanted replacing. The repair of the bridge is not undertaken by the Chinese Government, but is paid for by a subscription got up by the merchants of T'êng-yüeh. It was noticeable that the ferry was worked by five bamboo rafts specially constructed for the purpose: there is not a single boat in the plain. The Salween, like so many other Yünnanese rivers, is useless for navigation. There are quiet stretches where it would be quite possible, but the frequent occurrence of rapids would prevent boats from going more than a few miles.

We crossed the river and camped on the opposite bank at a height which my boiling-point thermometer made 2,200 feet, by far the lowest elevation anywhere in this part of Yün-nan. The climate was consequently at this time of year very pleasant, not hot in the daytime, and not too cold at night. The vegetation was entirely different from that of the country we had been passing through. Banyans, plantains, and other trees and shrubs peculiar to the warmer climates of Burma and the Shan States are to be found everywhere. The valley is in fact inhabited by Shans who call the plain Mong Hkö and are ruled by a sawbwa who lives a few miles below the bridge. This is practically the limit of the Shan race in this direc-

S. Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

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Photo by Major C. H. D. Ryder

Iron-chain bridge over the Salween

Plate XIII

[Face p. 56]

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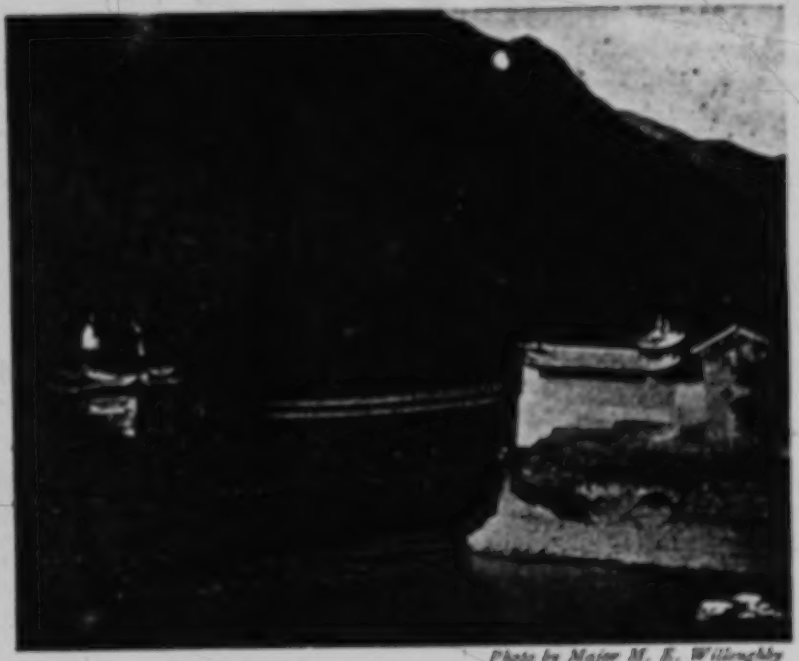

Photo by Major M. E. Willoughby

Iron-chain bridge over the Mekong

Photo by Mrs. H. R. Davies

The Hsia-kuan Pass, near Ta-li Fu

[Face p. 64]

Plate XV

H. Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

of A-lu-shih, which contains 150 houses—a large place for this hilly country. It is inhabited by a people with the bump of curiosity very largely developed.

The next morning we crossed the top of a range at 8,400 feet and from there dropped 3000 feet in three miles to Sung-lin-tiang, a very small village which contains however a fairly good official rest-house. During this descent the green-coloured water of the Mekong was occasionally to be seen in the deep valley below.

On the 13th a further descent brought us to this river at an elevation of 3,400 feet above the sea. The valley is of exactly the same character as where it is crossed on the Yung-ch'ang–Ta-li road, the river running in a deep gorge, with steep, almost inaccessible, hills rising up from it. There is not an inch of level ground outside the river bed, which is from 80 to 100 yards wide, and is pretty well filled up with water. The current is strong, and rapids numerous.

We crossed by an iron-chain suspension bridge of the same type as those previously described. It is built where the river passes between two precipitous rocks, is 75 yards long, and consists of a plank roadway supported by 14 iron chains, the ends of which are embedded in brick piers. At that time the bridge was a little shaky and swayed about a good deal as one passed over it, and there was a man posted there to warn travellers that only one animal must pass over at a time. After crossing, the road turns westward and follows the river bank for some distance before ascending steeply to Hsin-ts'un, where we put up for the night.

On the 14th February we crossed another range and descended to the town of Shun-ning, always pronounced Shun-ling by the Yünnanese. There is nothing to call a plain here, but a fairly level strip of cultivated ground, half a mile in width, runs along a little stream called the Pei-ch'iao Ho, and tiers of terraced fields rise again above this on each side.

The town is built on the west side of the valley, on the lower spurs of the hills, and is about 5,400 feet above sea level. It is an irregular shaped polygonal a mile in perimeter, surrounded by a 15 feet brick wall backed up on the inside by the usual earth parapet. The space within

& Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

Photo by Captain W. A. Watts-Jones

Bridge in the Shun-ning Fu valley

[plate XVII]

[Face p. 76]

S. Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

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Photo by Captain W. A. Watts-Jones

Iron-chain bridge over the Nam Ti

Plate XXVII

[Face p.116]

& Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

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A house in the Hsi-lien district

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Photos by Major H. R. Davies

Bridge over the Shweli near Kai-t'ou

Plate XXIX

[Face p. 122]

Sr Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

712

Photo by Major C. W. Johnson

Taw-nio Fort

.491

Photo by Major H. R. Davies

Ch'üan-kang ferry

Plate XXX

[Face p. 132]

S. Davies G-S (1894-1900) 1909 AP16 Southwest China AP16

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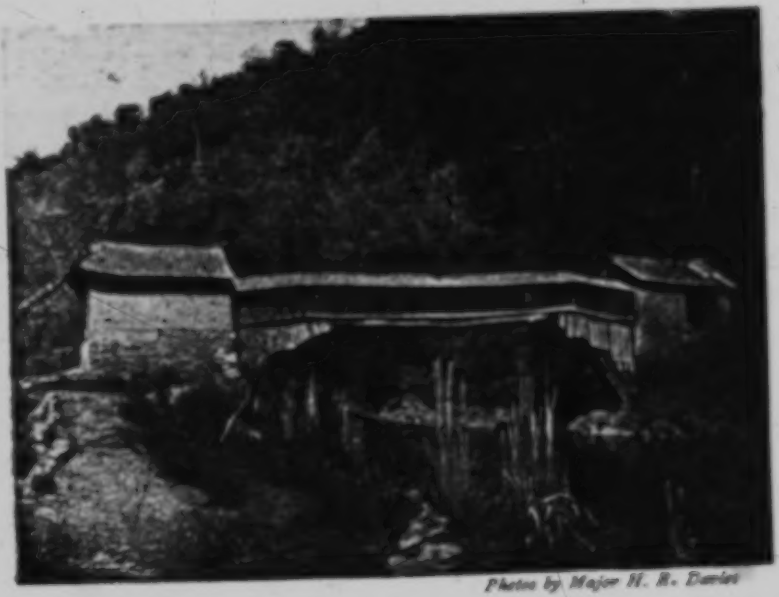
The Ya-lang Ho

• 491



Photos by Major H. R. Davies

Bridge over the Nan-ch'iao Ho

Plate XXXI

[Face p.140]

H. Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

•491

Photo by Mr J. S. Kerr

Bridge at Mêng-lang

Photo by Major H. R. Davies

[plate XXXIII] **Hsi-ch'ang ferry over the Mekong**

[Face p. 143]

5:- Davies G-5 (1894-1900) 1909 AF16 Southwest China

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Corner of Sima Fort

491

Photos by Major H. R. Davies

Bridge over the Paknoi Hka

Plate XLII

[Face p. 188]

& Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

491

A bridge in the Méng-ma valley

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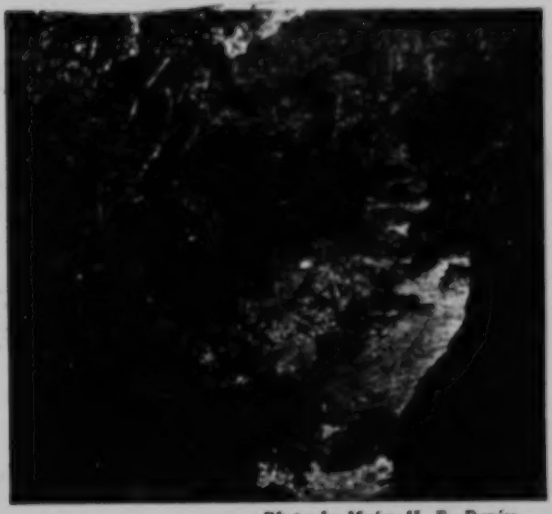

Photos by Major H. R. Davies

The Ching-ku Ho

Plate XLVI

[Face p. 198]

5: Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

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Iron-chain bridge over the A-mei Chiang

Photos by Major H. R. Davies

K'a-tu women

Plate XLVII

[Face p. 204]

5: Davies G-5 (1894-1900) 1909 AF16 Southwest China AF16

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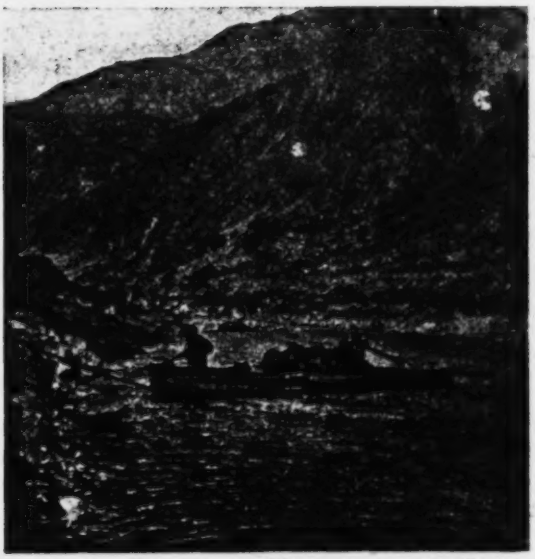

Photo by Major H. R. Davies

Pang-tzŭ-la ferry over the Yangtze

Plate LVI

[Face p. 254]

7: Hu K-5 (1934-) 1946 AF16 Southwest China AF16

505 Here, in the Min River drainage area, one finds a region of the richest agricultural production (with the highest cultivation-land index) and has the highest population density of the whole Basin (Figs. 21 and 10).

Among all the main tributaries of the Yangtse, the To River possesses the richest hinterland and has the most diverse agricultural and horticultural products. The To River, formerly known as the twin river of the Min, is composed of two branches: one is the Mien Yang Ho, originating in the Chiu Ting mountains, and the other, the Pai Tiao and Pu Yang rivers, tributaries of the Min. Both of these branches meet at Chao Chia Tu (Fig. 7) where, for all practical purposes, is situated the head of navigation of the whole To system. From Chao Chia Tu to Lu Hsien, the confluence of the To and the Yangtse, with a total of a little over 280 kilometers, junks with 50 to 60 tons capacity may ply all the year round. Between Lu-hsien and Fu-shun, steamers with one-to two-feet draught may negotiate during high water.

• 491 b) Highway patterns.--Next to the waterways, the highways furnish the most important channels of transportation in the Basin. The era of modern highway building in the Basin was first initiated in 1925, when a group of European-trained young Szechuanese engineers returned home and advised strongly the undertaking of such a program. The first highway completed was between Chengtu and Kuan-hsien (Fig. 7). But it was not until 1935, after the political unification of the Basin and the establishment of the provincial Bureau of Highway Construction, that the highway building program was carefully launched and systematically coordinated.

On account of the thoroughly dissected topography and the presence of numerous anticlinal ridges, together with the easily weathered rock structures, the building of highways in the Basin is not without serious difficulties. The constant threat of landslides, the presence of numerous steep slope and hairpin turns, and the necessity of building many solid embankments, make the building and maintenance of highways in the Basin both costly and hazardous.

At the end of 1940, more than 6,400 kilometers of highways were completed within the Basin. In fact of the province's 136 districts, 85 districts, or 62 per cent, now have highway connections. These include six trunk inter-provincial lines and a number

7: Hu K-5 (1934-) 1946 AF16 Southwest China AF16

of other important lines within the Basin (Fig. 7). Four more trunk lines are still under construction.[1] 491

The highway system of the Basin was laid out with Chengtu as its center. The six trunk inter-provincial lines, most of them radiating from Chengtu, include the Szechuan-Shensi, Szechuan-Kweichou, Szechuan-Hunan, Szechuan-Hupeh, Szechuan-Sikang, and Szechuan-Yunnan lines (Fig. 7).

Among the inter-provincial trunk highways, the Szechuan-Kweichou line is at present the most significant. This is mainly because of the fact that the northern section of this highway, from Chengtu to Chungking (with a distance of 450 kilometers), also forms a part of the Chengtu-Chungking highway. Thus it is also one of the principal arteries of transportation within the Basin. Moreover, it is through this vital channel (the Szechuan-Kweichou highway) that the urgently needed war materials from abroad, and the flow of Szechuan agricultural and forestry products, such as silk, tung oil, and others, for exports to the western world, are now transported (Fig. 18). This route now plays exactly the same vital role as the Yangtse gorges route did in the pre-war days. Its importance, indeed, cannot be over-exaggerated, so long as the present war against the invaders continues.

Other important highway lines within the Basin include Hei-chiang-Tzeliuching, the Chengtu-Kuan-hsien, the Chung-Pa-Pishan, and the Santai-Mienyang lines (Fig. 7). The last line is particularly important because it forms part of a through route running north and south within the Basin.

c) The principal rail-line.---In all of Szechuan Basin there is only one "toy" railway, 120 li long (Fig. 19), running between Hsi-shan and Pai-miao-tze. It was constructed with 20-pound rails and a 24-inch gauge.[2] This line, known as the Pai-chuan Railway (Fig. 7), was erected in 1929. Its chief function is to facilitate carrying coal from Lung Wang Tung and Pai-Chuan mines to the nearby urban markets of Chungking. Up to now no railway of any significance has penetrated the Basin. 496

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[1] Bureau of Reconstruction, Szechuan Provincial Government, Highway Statistics (1940), p. 46.

[2] H. R. Issac, "The Only Railway in Szechuan," Far Eastern Review, XXVII, No. 9 (1931), 551-54.

6: Tafel--305 T-3 (1905-1908) 1914 AJ1 Tibet

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Plate XLVIII.

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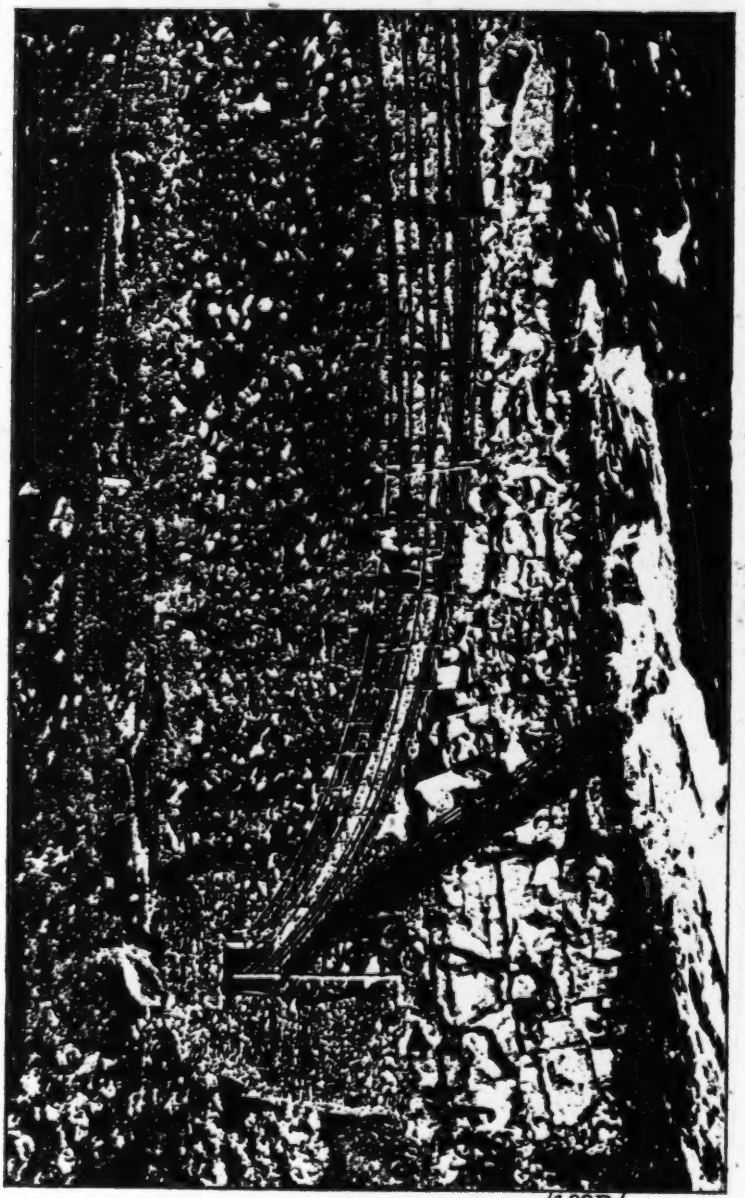

Suspension bridge of bamboo across the Great Gold River near Romi Tschanggu.

/192D/

This tribe lives on both banks of the Gold River between my Romi Tschanggu and Wa se kou, the place where the Ta tsien lu River flows into the /218/ Kin tschuan - Tung ho which the Ta tsien lu Tibetans there call rDyarong mutschü. The Yü tung people (Tibetan: Godong) are under the rule of their own hereditary prince and speak a language that neither Chinese nor Tibetans nor people from Kin tschuan understand, and that is supposed to have similarity only with the language of Bawang, the next kingdom above Romi Tschanggu. The inhabitants are farmers and are probably already related to the Lolo of Ning yüan fu, whose language, however, has a certain relationship with Tibetan. Each year in the eleventh Chinese month they celebrate a large folk festival during which they light fires on all the mountains, amid great shouting. The festival is supposed to free the country from a dreadful snake god. In former times - so the natives tell - there lived a large snake among them in a cave, to which each year a human being had to be offered as sacrifice. Each family in turn was obliged to throw one of its members to the snake. Once fate struck a smith, but he tossed a large piece of white-hot iron into the cave. The snake snapped at it, devoured it and burned up miserably. Its petrified image is still shown near the river. The neighbors of the Godong are amazed at the strange way in which these people carry burdens. Even loads up to 100 pounds that are meant to be carried on one's back they carry fastened to a band on their forehead.

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On the left bank of the Tung River toward the south are the territories of the Leng pien and beyond that of the Schen pien tu se. However, today these are almost completely swallowed up by the great flood of Chinese.

/218/ On June 13, I attempted to follow the Great Gold River upstream, but was deterred because of all-too precipitous places, in view of my unskillful horses of the steppes, and decided to get to the next mandarin city of Mu gung ting by way of the so-called da lu, the main highway and military road. The journey thither was supposed to take only three days. From Mu gung ting a road that was not dangerous was said to lead over the mountains to the upper part of the Gold River. However, already the crossing of the suspension

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491 bridge near Romi Tschanggu caused my horse- and mule caravan unforeseen delay, and this bridge I heard praised far and wide as a technical marvel. The Chinese erected this bridge only a few decades ago and picked a place for it where the river shoots by in a rocky bed 50 meters deep (Plate XLVIII and XLIX). Thus, the bridge hangs high above the foaming water and is 122 paces long (about 100 meters). Not a bit of iron was used on it. A dozen thin hawsers of braided bamboo connect the two sides. They are anchored on both sides on stakes in little houses. Each one of them is stretched over an upright cylinder just before the point where it is fastened, and can therefore be pulled taut or loosened according to necessity and the effect of humidity. The width of the bridge as far as the walking area is concerned is 1, 2 meters. However, in order to protect the bamboo ropes from too great a strain, there are only two narrow and thin longitudinal boards to walk on. These are tied to the cross pieces with thin strips of hide, and occur not quite one meter apart. They serve to divide the weight evenly among the ropes.

Before stepping on the bridge all the horses and mules must be unloaded. A guard at the bridge permitted animals and burden to cross over only one at a time. Several of my horses slipped on the narrow planks and hung kicking among the uncannily swaying, airy ropes that moved in every breeze and that, in spite of rollers and winches, are never evenly stretched, but are always somewhat warped. The bridge guard, obviously used to such interludes with horses, without a moment's hesitation, removed a few foot boards from another /219/ part of the bridge and slid them under the belly of the fallen animal, so that, with the help of two men, it could stand up again. The sway of the bridge, especially when we led the animals across, was more than one-third of a meter, although we merely felt our way across and the bridge guard and his assistant at two places sought to counteract too much deviation by skilfully bracing themselves with their hands and feet. To add to the excitement, my European eye observed, as we stepped on the bridge, that one of the 11 bamboo ropes was rotten and hung down. Thus, actually there were only 10 ropes that held the bridge together. It took me exactly two and three-quarter hours to cross over with my 15 animals and packs. During this time we were obliged to appropriate the bridge for ourselves and only a few pedestrians could slip by. The guard was very punctilious about letting only four people beside himself, or two people and a free pony, simultaneously weigh down his

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bridge. The man certainly did not hold a sinecure. Besides the fact 491
that he had to attend to the pulling of his ropes, he had to help many people across. Thus, a man in his fifties came along while we were at work; he grew dizzy when he saw the white foam and the surging waves through the planks. He shut his eyes tight and clung to the keeper by whom he let himself be slowly dragged across. At every tenth step they stood still for a long time to allow the vertical and horizontal motion caused by their steps to cease.

The large highway that runs up the Little Gold River, the hsiao Kin tschuan, goes along - I might almost say - after the manner of the suspension bridge. The scenery continued to be magnificent and delightful, (Plate L). On either side of the sharply eroded valley the mountains, rocks and forests rose up like mighty walls, as though they aimed to meet in the sky above me (Plate LII). Now and then some variety was afforded by a slight widening of the valley or a settlement and small cultivated fields. Several villages on the steep slopes showed countless tiao, stone towers, that originated in the time of the long wars of the old inhabitants with the Chinese (Plate L, LI, and LV). Uncounted rock steps and bridges, not a few with romantic charm, had to be laboriously crossed, and this resulted in quite a bit of excitement on the very first day (Plate L).

We had a rather serious mishap on the second day beyond the town of Yo ts'a on a covered bridge that was 30 and 50 meters high and ran along the river which was swollen from the continuous rains. A few rotten timbers collapsed just as half the animals had passed the difficult point. The unfortunate Hartschiu horse which carried the botanical specimens representing many weeks' work, fell into the depths and into the river amid a rattling heap of stones. All I saw was its head coming to the surface a single time out of the muddy swirling waters, then the waves engulfed the horse and its pack forever. At the moment when the accident occurred, however, we had all we could do to prevent another mishap. The covered bridge consisted of stairs nestling against the cliff and winding around the side of the mountain for a few hundred meters. The animals in the rear pushed against the ones in front and those in front wanted to jump over the gaping hole. It was an effort to prevent them from doing this and to /220/ hold them back, to cut off the packs and turn the animals around in spite of the narrow path. Only then could we hasten to the next village in order to buy boards and to hire help (Plate XLIX).

My journey caused a great stir among the natives because people 492
seldom travel with mules and horses in these parts. Usually Chinese